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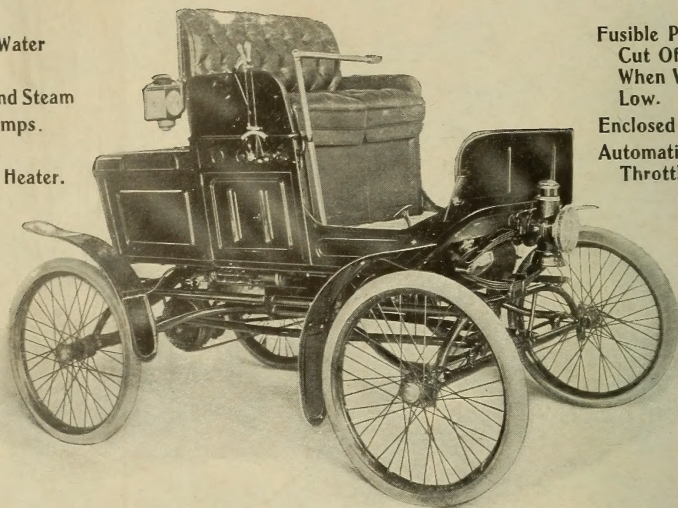
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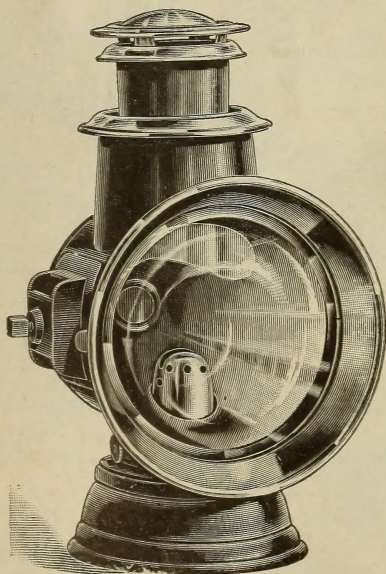
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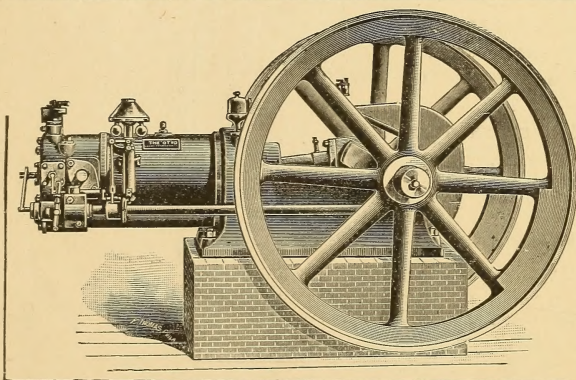
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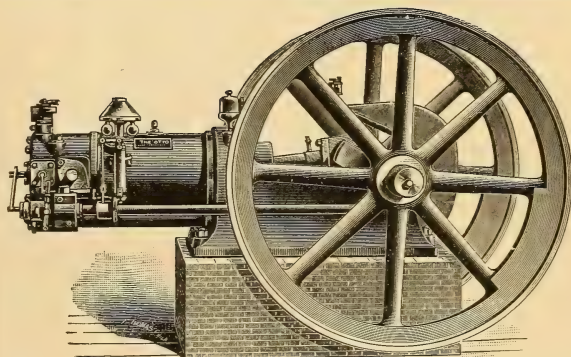
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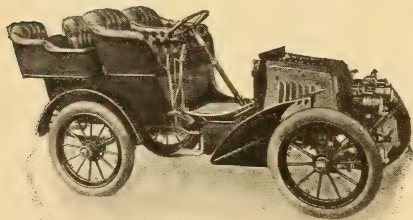
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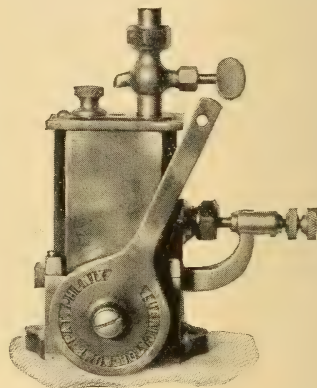
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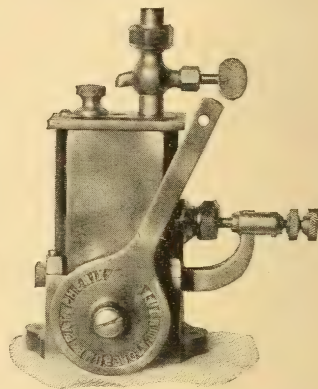
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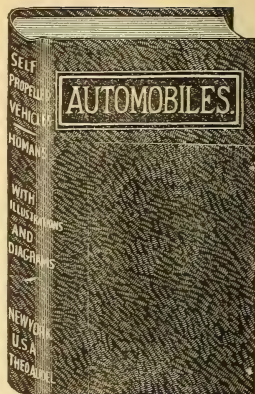
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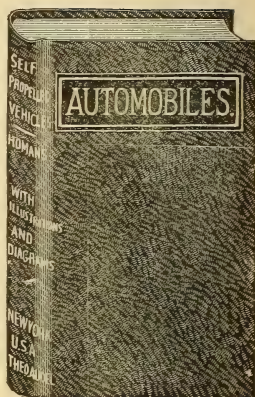
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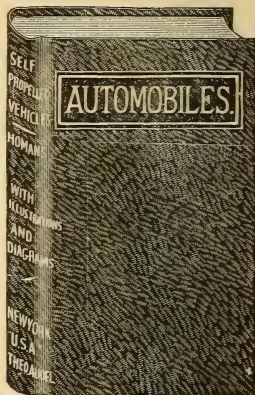
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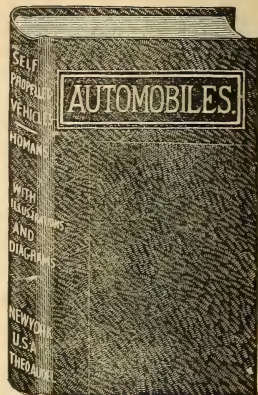
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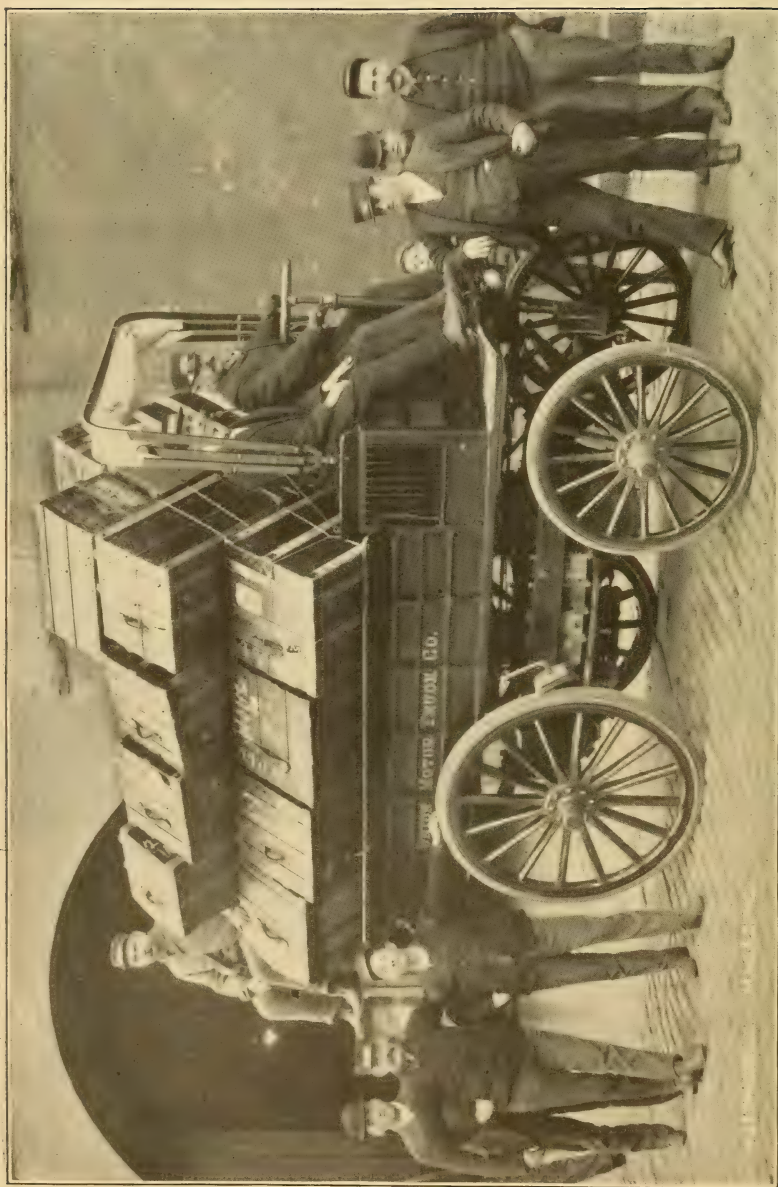
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# THE AUTOMOBILE MAGAZINE

VOL. IV

JANUARY, 1902

No. 1

## Resume of the New York Automobile Show

By ALEX SCHWALBACH

**B**EFORE looking forward to the Chicago show in March, let us look backward at the New York exhibition last November and use this view "to point a moral and adorn a tale" for ourselves and to guide the historian of the future as regards its most striking mechanical characteristics and tendencies. A great deal has been published about the New York show, both before it opened, during its progress, and since it closed. That which was written before the opening was necessarily largely composed of reading notices compiled by the manufacturers, and from the nature of its sources had no comparative value; that which was written during the show was done hastily, and the larger mass published since the close had for its main purpose the demands of the business office. Having read all of these and the catalogues of the makers and "chewed the cud" of reflection on them, in addition to my own work, a work of exploration and interview covering the whole period of the show, a résumé is timely.

### SOME STATISTICS

Let me begin by noting a few statistics. Had good old Mrs. Partington visited the show she certainly would have repeated her famous remark about "statistics being odorous," because the bulk of the figures that follow are mostly concerning gasoline—used directly as a power and indirectly in making steam. Forty American manufacturers exhibited 145 vehicles, of which 62 were gasoline, 60 steam and 23 electric vehicles, and of these makers, divided into classes, 21 make

gasoline vehicles only, 12 steam and 3 electric exclusively, 1 gasoline and electric, 1 steam and electric, and 2 gasoline, steam and electric.

Of these, 16 showed single-cylindereed gasoline motors, *viz* : the Packard, Winton, Peerless, De Dion, Crest, Pierce, Knox, Searchmont, Stearns, Warwick, Long Distance, Knickerbocker, Holland, Olds, Desberon and Automotor.

Thirteen makers showed double-cylindereed gasoline motors, among them the Winton, Haynes-Apperson, Gasmobile, Riker, De Dion, Knox, Searchmont, Long Distance, Holland, Automotor, Peerless and Autocar.

Six makers showed multiple-cylindereed gasoline motors having



A. S. Winslow and W. A. Hatcher in Packard Dos-a-dos

more than two cylinders, *viz* : Gasmobile three, four and six cylindereed, Duryea three, Robinson four, Long Distance three, Riker four, and Peerless three and four cylinders.

Water-cooled motors were shown by 19 makers, *viz* : De Dion, Pierce, Duryea, Robinson, Stearns, Gasmobile, Long Distance, Winton, Packard, Haynes-Apperson, Riker, Knickerbocker, Holland, Olds, Desberon, Automotor, Peerless and Autocar.

Air-cooled motors were shown by the makers of the Knox, De Dion, Warwick, Crest and Pierce.

Steam vehicles shown were the Locomobile, Mobile, Foster,

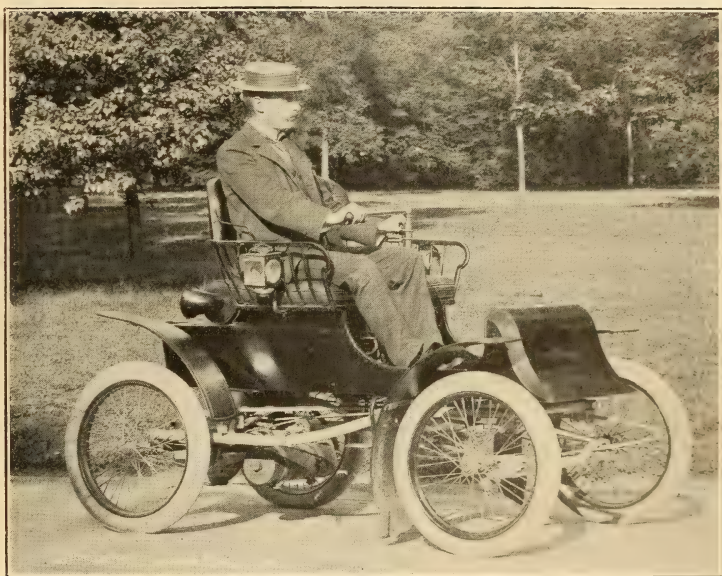


Stevens, Overman, Reading, Toledo, Century, Prescott, Lane, Elite, Milwaukee and Geneva.

The electrics were those made by the Electric Vehicle Co., Baker, A. B. C. Waverly, Fanning and the Vehicle Equipment Co.

Among the 145 vehicles there were 82 that had one brake, 43 that had two brakes, and 20 with three brakes ; 90 vehicles had wire suspension wheels, 50 had wooden wheels, and 5 tubular metal wheels.

Five hundred and forty-four pneumatic tires were shown, and



2¾ H. P. Pierce motorette, weight without passenger 500 lbs., low speed 4 miles, high speed 22 miles, gasoline supply 100 miles, wheels 26 inches

thirty-six solid tires. The pneumatic tires were divided into two classes, the hosepipe and the inner tube detachable, the hosepipe leading with 375 tires, and the detachable following with 136 tires.

#### DEDUCTIONS AND TENDENCIES

To the critical observer of the progress of the industry these figures are instructive ; the most striking tendency shown is the getting away from the use of single-cylindere d gasoline motors, notwithstanding their past and present popularity, and the growing desire for the use of double and multiple-cylindere d engines. Indeed, this ten-

dency has been the means of revolutionizing the whole design of the gasoline vehicle. In the single-cylinder type the construction usually placed the motor, the fuel, water coolers, gears and the mass of weight compactly together in the rear part of the vehicle. This construction made hill-climbing difficult, caused side slip and skidding on muddy roads and greasy asphalt streets, and the parts were difficult of access. Besides all of this the single-cylindere motor must be heavy to stand its own thrust and the vehicle must run by momentum three-fourths of the time. In the double, and especially so in the multiple-cylindere motor vehicles, all this construction is changed. The motors and water coolers are placed in front, usually over or nearly over the front axle, the gears and fuel in the rear and the weight of the passengers in the middle. The net results of this change are long wheel bases, low center of gravity, angle-iron frames, plain spring, running gears without reaches, the comfortable tonneau body, freedom from vibration, good traction, great hill-climbing qualities—almost total absence of side slip, and easy access to all parts, the motor being covered only by a detachable metal hood or bonnet. All of this new style of construction has been copied from the French. Some question has arisen whether this type has come to stay. Expert opinion thinks it has, but that it must evolve itself in lighter and more graceful forms, say one hundred pounds of weight to every horse-power.

#### IGNITION AND STARTING DEVICES

Hot tube ignition which never was common in this country has dropped out of sight altogether. There is, it is obvious, a strong tendency to abandon the use of batteries, and substitute dynamos and magnets for ignition purposes on gasoline motors. Winton uses a dynamo operated by a round belt from the same shaft that drives his water circulating pump, using a set of batteries only as an auxiliary to start his motors. Haynes-Apperson, Robinson and Duryea use a magneto—the two first named using, like Winton, a battery as a starter; Duryea, however, does not, he using a naked copper wire to carry the current until it wears out—insulation not troubling him. Winton has a mechanical spark advancer, which is very popular in France, and which will be in vogue here, slight as the call for it is now, for it certainly is a great help to the motor when more speed is wanted. The automatic air governor, however, still controls and reduces the speed of the motor when the vehicle is at a standstill. The struggle for supremacy

between the make-and-break, and the jump spark for ignition, seems to show preference towards the use of the latter.

Our old troublesome enemy the carbureter is evidently being, pushed to the scrap heap by the atomizer and direct-feed systems of supply.



James S. Mitchell in Toledo carriage

#### AIR COOLED MOTORS AND POSITIONS

The air-cooled motor is only used on the light types, a variation of it on the Knox consisting of a series of projecting pins, which give it the appearance of a porcupine, cover the cylinder, being cooled there by a rotary fan operated by a belt. A most decided tendency is shown towards the use of upright or vertical cylinder motors, nearly all the makers of double or multiple-cylinder motors showing them



in this position. Haynes - Apperson, however, still use the double-cylinder motor of the horizontal opposed type, and Winton's new 15 H. P. motor is of the same style.

#### TRANSMISSION GEARS

In the present state of the industry some form of transmission gear, or rather change-speed gear, is necessary in a gasoline vehicle. Heretofore two speeds forward and one reverse seemed to have filled the bill. The present custom is three speeds forward and one reverse. Bevel-gear transmission with live rear axle and universal joints are noted, but a strongly developed tendency to use driving chains on both rear wheels with a rigid rear axle and the differential in the counter-shaft is to be highly commended.

Some of the transmission gears were so clumsy and so full of friction that it took a horse-power or two to run them alone, to say nothing of moving the whole vehicle. A wholesome tendency is that of driving directly on the high gear without moving the rest of the transmission gear. The epicyclic method used on the Packard is a good one. The well known Upton gear is largely used, in some cases however, modified to suit the makers' views. Nearly all the gears used are modeled after well known lathe forms and others used in machinery practice, with trains of either fixed, loose, or sliding pinions and clutch mechanisms. The change-gear problem is a difficult one and nothing seen at the show indicates a solution of it.

#### STARTING DEVICES

Several efforts have been made to do away with the need of a hand-crank in starting a gasoline motor. The Crestmobile showed a ratchet, spring and pawl device, operated by a flat strap from the seat. The Searchmont has something similar, but in the rear of the vehicle, and which is not an improvement on the crank-handle. The De Dion and the Gasmobile have their hand-cranks permanently fastened to the shaft, an effect not altogether pleasing. Maxim's idea of an extra sparking device, operated by a button from the seat, the motor being left in the proper position for starting, seems to be a taking suggestion. However, there is room here for other suggestions and ideas for this purpose.

#### RUNNING GEARS AND BODIES

The tubular running-gear, costly in construction and delicate in use, has been abandoned for the channel-steel frame, which carries all the mechanism, with semi-elliptic front and rear springs, making a

running-gear as strong and as simple as is generally seen in daily use on platform spring business trucks ; also, like them, a side-brace rod from the rear axle to the frame, and which also serves a double purpose now, by being made adjustable to adjust the chains. This drawing towards the wagon and truck builder, rather than to the carriage-maker, to whom the trade first turned, is all the more remarkable. In doing this the trade abandoned the regulation carriage body



Century Steam Surrey

and running gears and took something more suitable to its needs and wants, still keeping the aid of the carriage-maker in building, finishing and upholstering the body. Dividing the bodies into three classes seems to be in vogue ; the tonneau, big and little, the phaeton and the runabout. Black is the main color. The Winton wine color is distinctive, the Robinson green car was superbly

finished, the Packard red was attractive, as were the Peerless white and the canary-colored De Dions and Searchmonts.

The big Gasmobile, with its hood and aluminum sheet metal fenders, was a contrast to the quiet, black metal trimmings of the Winton. It is evident, though, that brass trimmings, brass horns, brass lamps, brass hub caps on wooden wheels, rather than nickel-plated trimmings, are *comme-il-faut*. Brass work has the merit of being solid and, while more difficult to keep clean, will not rust, as nickel-plated iron does. Here the trade differs from carriage-makers, who always prefer to use silver-plated trimmings.

#### THE TIRE PROBLEM

It is evident that we have reached the limit of size and weight-carrying capacity of single tube pneumatic tires, the use of detachable inner tube tires being strongly indicated. They are lighter, faster, more resilient, and while it is true that they are more easily punctured, it is also true that they are more quickly repaired. The single tube tire can only be plugged as a temporary expedient—the puncture finally needing vulcanizing, which takes time and is expensive. In fact the only solution of the problem is to cut down the weight of the vehicle, so that a 3-inch tire weighing not over 20 pounds, will be the maximum—the weight of the vehicle at present acting as a trip hammer to drive in puncturing materials. The use of solid tires for pleasure vehicles seems to have had its day, although some splendid specimens for business use were shown. I was very much impressed with the metallic tire, although I did not think much of it for bicycle use when first shown two years ago. Its workings were thoroughly described in *The AUTOMOBILE MAGAZINE* last November.

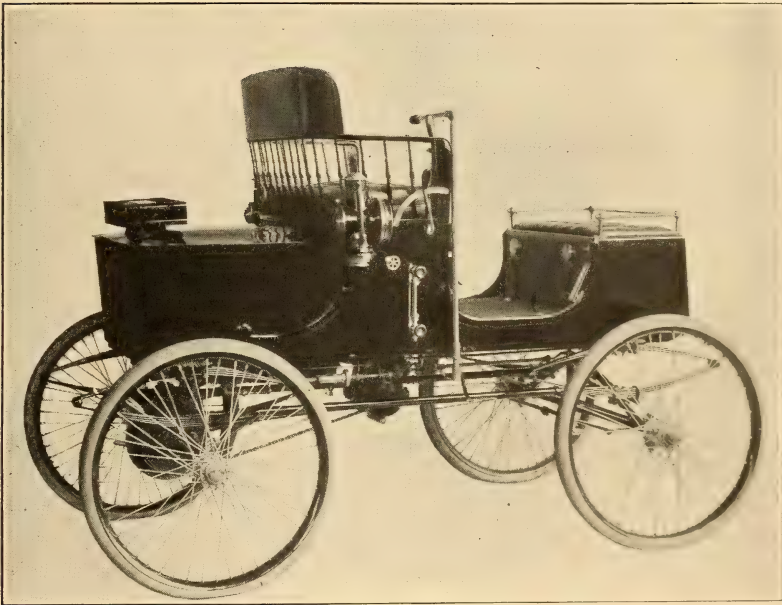
#### WHEEL CONSTRUCTION

The French invasion has brought with it the adoption of wooden wheels—a popular style called the artillery, leading the others. The use of this wheel became almost a necessity in France, where chain driving is done by sprockets on both rear wheels on a rigid axle. This need arose from the difficulty of fastening a large sprocket on the wire-spoked suspension wheel—the wooden artillery wheel with its flat spokes set in a vertical plane with the hub lending itself more readily to this form of construction. All that was necessary to do was to drill holes in about every other spoke, and bolt the sprocket to these



spokes. The wire suspension wheel with its naked spokes does not afford so ready a means of fastening the sprocket.

All these wooden wheels are not of one design, the leading one shown being made under Archibald's patents having straight wooden spokes, with an extra knob turned on them where it is intended to fasten a sprocket to them, the spokes being inserted by hydraulic pressure in a long tapering metal-flanged hub of two sections which are bolted together before the square shoulders of the spokes, which



Foster steam touring carriage

touch each other, are inserted. So far these wooden wheels have stood up well in this country and in France.

A strong effort is being made to introduce metal wheels of a tube spoke construction, one called the Midgely being prominent, the spokes being made of brazed oval taper tubing, brazed to thimbles or sleeves in a double hollow rim, and also to a metal hub in the same manner. After being assembled in jigs the whole wheel is brazed together at one operation by a dipping process in a crucible of molten spelter, making a compression spoke wheel of great strength. Another type shown was the Pittsburgh, a suspension tube spoke wheel with

a metal hub, the spokes being threaded to a short threaded stud which is in turn threaded into the hub. The spokes are fastened to the rim by a set screw threaded in them through the rim, a washer being placed between the spokes and rim to prevent them from being sheared off. The merit in this wheel consists in the chance to remove and replace broken spokes. A novelty was the "wheel within a wheel" described in the previous issue of the AUTOMOBILE MAGAZINE. Summing up the situation it may be said that there is no better wheel, taking weight for weight, than a well-made wire suspension tangent spoked wheel under every kind of strain.

#### ELECTRIC VEHICLES

In some way the impression has obtained that the electric vehicle has not kept pace with steam and gasoline construction. In fact it has always been ahead of the others, electric construction lending itself so easily to the art of the carriage maker. The Waverly and Baker runabouts, with their piano-box bodies, are models of neatness and style. In the larger types the influence of gasoline shapes has prevailed and an electric tonneau was a real novelty at the show. Batteries have been improved, giving a larger distance radius. They have also been lightened and a better distribution of weight has been made by carrying one-half of the batteries over the front axle in place of the dashboard. The electric motor is an ideal one producing an almost constant torque, and it only needs still further improvement in the batteries to make it take the same premier position for city use that the gasoline vehicle has for touring purposes.

The single-motor drive with a chain is not as popular as it was, two different forms of two-motor drives being more largely shown. In one form the motors are hung directly on a solid rear axle and driven by gears connected to the driving wheels. The other form has the two motors at the center of the rear axle which is divided and each motor drives one-half of the axle to which the wheels are fastened, so that a differential gear is not required as in the single motor drive system.

#### STEAM VEHICLES

The steam vehicle, like the electric vehicle, is a distinctly American product, and again like it, has reached its highest development here because we lead the world in steam engineering. Upon its long familiarity its popularity as a vehicle power is based, and also because of the lightness of its construction—following so closely the

designs in gears and bodies of the horse-drawn vehicle. But the body designs have not wholly escaped the influence of the gasoline type of body. The leather dashboard is gone, and in its place is an extra seat, giving a box-like front. The bodies are made larger and more comfortable, and running gears widened, lengthened and strengthened. The trouble has been, in designing steam vehicles, that too much attention was given to elaborate tubular gears and springs, copying the mistakes of carriage builders, who mixed good wooden-wheel practice with a new problem when pneumatics came in. A pneumatic-tired vehicle does not need all of this. It depends mainly upon its tires for its ease of riding, as the bicycle does. Every pound of weight added to running gear construction means so much power wasted to move it.

The simplicity, strength and low cost of the running gears now used on the big gasoline tonneaus are the features to follow.

Speaking of steam machines, it may be said that no visitor to the show could look at the imposing displays made by the large and small makers of steam vehicles without being impressed with them. If the electric vehicles have their city use defined, so has the steam vehicle, with the added capability of making long runs to near-by resorts, leaving to the ponderous gasoline tonneau the pleasures of touring with large parties aboard, the smaller gasoline type of vehicle filling in between them all. No one familiar with the advanced state of the industry expected to find any very radical departures in steam vehicles at this show. The custom is to still use the vertical fire tube boiler, but to increase its size and also the size of the gasoline and water tanks, which now have about reached their limit. The net result of this is, of course, more power and a greater radius of action. An effort is noted to depart from the detachable torch vaporizer, such as is used on the Locomobile, the pilot light seeming to be most popular. Like the boilers, the engines are made larger and all are of the two-cylindere vertical type, except the Reading, which has a four-cylinder engine with a rotary valve and which is used to reverse it, the others reversing by the well-known Stevenson link motion. The Elite reverses by moving a rotary piston valve.

The Stearns, a compound engine, can be run as a single engine, if need be. On the Stearns and Toledo engines piston-valves are used. In nearly all the types, the crossheads are adjustable, and a few of them use ball-bearings. On the Toledo a superheating coil was seen, and on the Prescott a superheating dome. A few of the boilers and



engines have automatic devices attached, but it cannot be said that their use is growing. The Victor pump is slowly worked by an eccentric on the rear axle, and this tendency to get away from the troublesome crosshead pump, with its high speed, is to be commended. A number of the makers show independent pumps, operated either from the crosshead or by steam, for keeping up the air pressure on the gasoline tanks. A good feature is the growing tendency to heat the water before it goes into the boiler. Wire wheels are universal, but



Geneva Steam Carriage

heavier and stronger than last year, and the sizes and weights are increasing, but not out of proportion. The Century uses a bevel-gear drive—the others all using a single chain without a gear case. Among the hundreds of little detailed improvements, but which are of no general interest, save to the operator, I noticed that on the Toledo, the gasoline, water, air and steam pipes were painted different colors to distinguish them. The Toledo and Lane also had a syphon and rubber hose water filler—a handy thing anywhere.

## BUSINESS VEHICLES

Few of the makers show a disposition to go into the manufacturing of business vehicles, and if they have the show did not reveal it. It is to be conceded that business vehicles alone could not make a show attractive to a pleasure-seeking clientele, but the big electric truck with an electric windlass hoisting a safe had a crowd about it at all times when in operation. Not a gasoline business vehicle was shown, the steam and the electric wagons having the field to themselves, here again showing their adaptability for city use. The high-powered, strong running-gearred gasoline pleasure vehicles shown must, however, eventually, with wagon bodies and truck platforms, come into general use for business purposes and present a great and lasting field for the makers who develop them and who will produce a wagon that will be reliable and cost little for repairs.

## IN GENERAL AND CONCLUSION

Not a freak was seen at the show, and what was more remarkable, motors using heavy oils, compressed air, carbonic gas, alcohol, combinations of electric and gasoline motors, all of which are so dear to the hearts of the daily space fillers, were conspicuous by their absence.

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When Automobiling Becomes General

SOONER or later, Progress, which nothing arrests, brings to even those who have wished to bar her way, unexpected compensations, which would serve as lessons, were it not that mankind is inconsistent, to the point of condemning to-day for his neighbor that which he loves passionately to-morrow for himself! Ten years ago a fabulous price, comparatively, was paid for a Humber that was not comparable to the ordinary bicycle of later times. Great was the outcry against it in the name of public safety, until every person was able to possess one; then they ceased to be dangerous! And when the automobile becomes democratic, in its turn, public opinion will turn, acclaiming against the blindness of those who formerly opposed the motor.

## A Talk on Gasoline

By R. H. McNALL.

ON Tuesday evening, November 26, Mr. R. H. McNall gave an informal talk on gasoline, in the club rooms of the Automobile Club of America, to the members of that organization. He went step by step in describing this interesting product from the time the well was driven, to when the gasoline was lost among the vapors of the muffler or boiler flues. Mr. McNall's description of the way a well is driven, and what happens when oil is struck under pressure, enlightened many who had not given much thought to the early stages of gasoline. The lecturer's connection with the Standard Oil Company enabled him to treat the well-driving part in a thorough manner. Mr. McNall went into many details, telling them in a plain and interesting way.

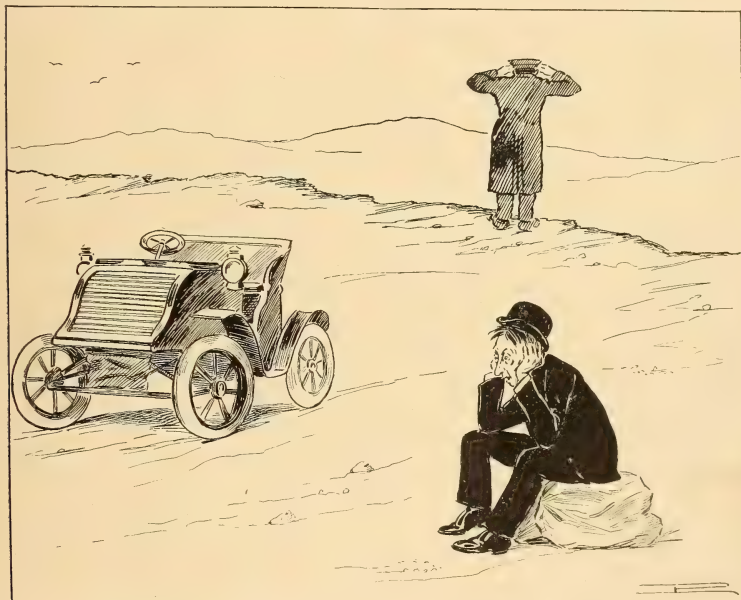
The part where the product commenced to assume a gasoline appearance held his listeners to the extreme. He gave the information that stove gasoline was the best all round product to use in a gasoline motor, and also for getting a flame in a steam automobile. He exploded the idea that 76-degree gasoline was the best. Stove gasoline ranges around 70 degrees—it sometimes being 1 or 2 less or more, which fact he says is immaterial, so long as it is stove gasoline. This product is something quite separate from other grades of naphtha, it being the result of a demand a few years ago throughout the country for a fluid which would give a good flame without clogging the burners of gasoline stoves, which came into vogue so extensively then, and which are now largely used. The lecturer did not say that 76 degree fluid would not be good under certain conditions—he for instance, speaking of atmospheric changes where a higher or lower degree would give a greater explosion, and thereby add to the efficiency of the motor.

Mr. McNall's words concerning the manufacture of stove gasoline were practically as follows :

The crude petroleum is pumped into what are termed stills, with a capacity of about 1,000 barrels. These stills are like large boilers in appearance, except that they have no tubes, being shells only. Under them a slow coal fire is made and the oil gradually heated. As



the oil becomes hot it gives off vapors which are collected and pass through a series of pipes or coils which are kept cool by water. The first vapors are non-condensing. After these have been removed, the next vapors passing through the condenser coils are cooled and reduced to a liquid, and are collected in the crude naphtha tanks. This crude naphtha contains all of the various naphtha products with which consumers are more or less acquainted. The crude naphtha is then pumped into what are termed steam stills, for the reason that the distillation is there carried on by the use of steam instead of direct fire.



Mr. Struckoil, who has run out of oil 17 miles from nowhere, is thinking of his 9 oil-wells he owns in Pennsylvania

As the distillate comes from the steam still it is divided up into the various products known as light gravity gasoline for illuminating purposes, 76 naphtha, stove gasoline and benzine. This distillate, although perfectly water white in color, has a disagreeable odor, which unfits it for some uses. It is, therefore, necessary to deodorize it. The process by which this is carried on is as follows :

The product to be deodorized is pumped into what are termed agitators, which are large upright cylinder tanks lined with lead. Into this agitator, with the naphtha, is also pumped a small quantity of

sulphuric acid, that has an affinity for certain impurities that the naphtha and stove gasoline now contain. Air under moderate pressure is forced in at the bottom of the agitator and the contents, naphtha and acid, are thoroughly mixed together. When this result has been obtained the air is cut off, and the acid being of much heavier specific gravity than the naphtha immediately sinks to the bottom and is drawn off. In order to remove all trace of the acid from the naphtha, water is then sprayed in and the naphtha is thoroughly washed, after which the water, which is also heavier than the naphtha, sinks to the bottom and is drawn off. The contents of the agitator is now a deodorized product and is pumped to storage tanks to be distributed to general trade.

As above stated, however, in making stove gasoline the process does not end here, as this material has to be subjected to a further treatment to make it suitable for use in engines, either stationary or marine, or for automobile use, and for burners of all kinds.

Mr. McNall went into a complete description of how carefully stove gasoline had to be made, saying that it was very easily contaminated by the slightest particle of dirt, oils, or any extraneous matter. He put great emphasis on the necessity of users keeping their tanks or receptacles absolutely clean, for, as he said, stove gasoline as a fluid went looking for bad company and would take on with anything so readily that it had to be watched to keep it by itself. This is looking at it from experts' view point, and as Mr. McNall said, common users such as plumbers, cleaners of clothing, and others who use the fluid in only ordinary ways would laugh at the idea of keeping stove gasoline so absolutely pure and apart from the rest of the world, but motor car users or any who rely upon the fluid for giving quick and reliable explosions should jealously guard the gasoline that is put into the receptacles of their cars.

Mr. McNall told some enlightening points about using the fluid in various climates and also went into a comprehensive description of what the autoist should do when starting his carriage in cold weather. It being well known that gasoline will volatilize quicker against warm parts than cold ones, was reason enough for autoists to see that their connections leading from the reservoir were of a temperature that would encourage gasoline to do its duty. Mr. McNall gave the following ideas regarding this part.

In considering the use of petroleum products for power purposes two things must be taken into consideration : efficiency, i. e., power,

and economy. As petroleum products contain motive force or heat units in proportion to their weight per gallon, it will be seen that the lower the gravity the less goods will be used or the greater the power given therefrom. It might be contended from this that refined oil, or as it is commonly called, kerosene, would give better results as far as power is concerned, than stove gasoline. This is true if only the question of motive force be taken into consideration, but you must also bear in mind that for engine use a product must be used that is volatile enough to form a gas without artificial heat; therefore a product must be found which will be heavy as possible and yet which will also volatilize readily. After careful tests the product known as Stove Gasoline has been found to combine these two properties to the greatest extent possible, and a product of 70 gravity contains over 4,000 more heat units per gallon than 76 gravity, and lower gravities contain proportionately more.

In reply to questions as to the best methods of storing stove gasoline, Mr. McNall suggested that owners of motor carriages should provide themselves with a steel storage tank, having a capacity of something more than a barrel. These tanks are made for such purposes by a number of reliable manufacturing concerns. Where possible, the receptacle should be buried in the ground, the supply being pumped from it as required. The reservoir of motor carriages should never be filled, except in the day time, and never in the presence of exposed flame or fire of any kind.

The numbers by which some grades of naphtha are distinguished, such as 62°, 70° and 76°, etc., do not refer to the fire test of the material, but to its weight, as compared with water, by the Beaume hydrometer. He discouraged the use of hydrometers by parties unaccustomed to the use of this delicate instrument, as the results obtained in other than expert hands are deceptive, and frequently result in unfounded complaints.

There were a number of questions of a hypothetical nature asked by half a dozen of Mr. McNall's listeners, which were answered by him and Mr. C. W. McGee, a chemist and expert refiner, who accompanied the lecturer.



# The Automobile in France To-day

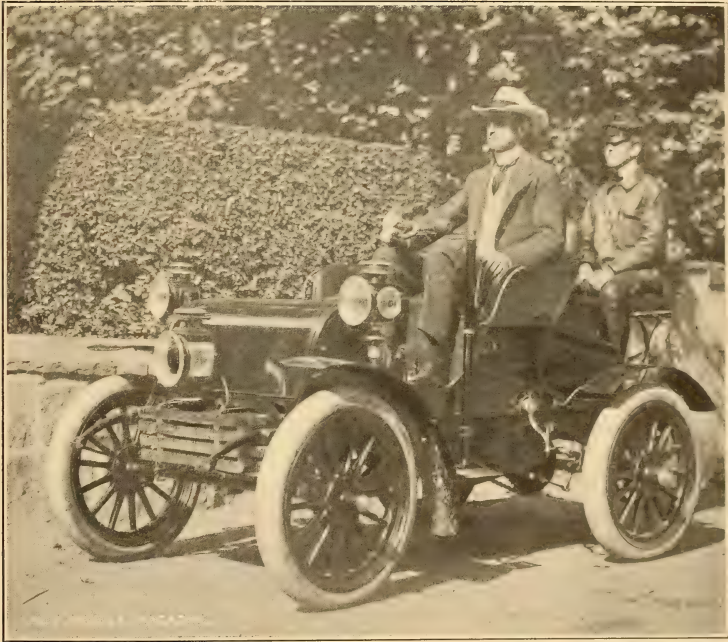
By HART O. BERG

THE author of this unusually interesting treatise, who has resided in Paris for the last ten years and who has for most of that time been closely identified with automobiling, especially since the subject has become so widespread in general interest there, delivered a lecture at the Automobile Club of America Tuesday evening, December 10, before the largest gathering the club rooms have ever held since the opening of these headquarters last February. Mr. Berg, who is also a member of the A. C. of A., commenced by saying that he had been asked to talk for an hour, the time it takes nowadays to run in an automobile over the ordinary country road from Philadelphia to Trenton, or from Paris almost to Rheims. His subject was "*La Question Automobile*," as it refers especially to France. Mr. Berg called attention to the fact that the automobile had been born, nursed as an infant, whipped into obedience as a youth, and was now gaining the love of all in France. In fact, in that country the motor vehicle has been greatly encouraged.

Mr. Berg continued : Among the world's best examples of evolution I would say that that of the automobile has been more exaggeratedly rapid, more pronouncedly energetic than any other recent mechanical development. This terrific advance has not been without costly trials and experiments and a concentration of thought which, as I have already said, first finding its encouragement in France, still continues, and this with your permission, to hold the lead in that country. This is but natural. The topographical conditions of France lend themselves so well to the development not only of speeds and flying runs, but to long and continued excursions, which added to the exhilaration of moderate speed, make touring both possible and enjoyable.

Less than ten years ago the late Mr. Levassor (whom I had the pleasure of knowing personally very well, and with whom I came into intimate contact on several occasions and, therefore, am in a position to state that in my opinion I believe him to be the real father of practical automobiling), using as he did at that time the hydro-carbon motor of Herr Daimler, tried again and again to construct a mechan-

ically propelled vehicle that would carry him but once around the fortifications encircling Paris without necessitating his stopping for repairs, or without his having some exasperating accident of one kind or another. This was the then herculean task he had set himself, and it took him almost two years of constant labor, trial and experiment to fully accomplish this now almost ridiculously insignificant run. It was Mr. Levassor who first conceived the idea, that is as far as I know, of putting the motor in front of the dash, and it was due, I be-



James Macnaughtan in 12 H. P. Gasmobile

lieve, to this disposition of the motor and the distribution of the mechanical parts of the carriage which necessarily follows when the motor is placed in front of the dash, that encouraged to ultimate success the various refinements which Mr. Levassor afterwards worked out.

The field was a virgin one at that time, and every detail of his vehicle had to be developed organ by organ, until now the trip from Paris to Bordeaux, as you all know, has been taken without one single

breakdown or stop of any kind, except for fuel ; and long runs of several hundred miles without the slightest inconvenience, must prove to you that the automobile, as exemplified in the French type of to-day, has at least arrived at what may be accepted as a practical type.

I think I now dare go on, even under the impression that perhaps you have received from me the idea that I am convinced that the automobile must come from France. I shall, I am sure, before I finish my remarks, convince you that the real home of the manufacture of automobiles will be in this country, and if you will allow me to lead up to this gradually and with some patience, I think that perhaps I may be able to show you my reasons for believing that America will come forward with bounds and leaps, as she always does, and will ultimately control the automobile purchasing markets of the world.

In 1889 I spent most of the summer in Paris at the Universal Exposition held there in that year, and I was much impressed, as was everybody, with the boilerless steam engine of Mr. Serpollet. In a small pavilion on the banks of the Seine Mr. Serpollet showed his little engine running, pounding, generating power, and using, as you all know, his capillary tube system. Mr. Serpollet was not long in building a motor carriage in which he incorporated his little piece of copper tube, through which was pierced the smallest kind of a hole ; water was pumped through this and by the application of heat, immediately produced steam, as it was needed, for his small single-action engines. Unfortunately, this capillary hole soon became clogged ; it was enlarged, and afterwards a series of tubes was used. Then Mr. Serpollet made a carriage with a device ingenious enough, regulating the supply of fuel and the supply of water, the relation of the proportions of those supplies being controlled by one lever. Years afterwards I bought a Serpollet carriage. I have never had so much fun with anything in my life. Sometimes it ran up-hill in a beautiful way, sometimes I had hard work to run it down-hill. The tubes kept flooding. I developed muscle in my right arm, with which I was forced to do a little additional pumping now and then, but I found a good opportunity of selling this carriage to the Shah of Persia, and I have no doubt that some of his numerous wives are now having lots of fun with it in Teheran.

This is about the only steam carriage other than those for heavy traction (to which I shall refer later), which has appeared in France. It runs through the streets noiselessly, and is easily controlled, but I found that one had to have not only a knowledge of mechanics to run



this carriage, but had also to be on the constant alert at every change of grade, when more or less water or more fuel had to be sent to the flash tubes, and instead of looking at the scenery and enjoying the fresh breeze, the air often became blue about me and I became very tired of focusing my eyes on the jumping steam gauge. I have seen very few other steam carriages of the light type running through the streets of Paris.

I now come to electric carriages: Gentlemen, I have been brought up on them. I have seen them through their measles and their scarlet fever. I have seen them go through all sorts of experiences in the charging stations, but I must say that during the five years that I have run an electric carriage through Paris (and I was one of the first to have an electric carriage there, and that an American one), I have never had but once what the French call a "*panne*." It was just back of the Madeleine when I suddenly came to a standstill. At that time there were not many electric carriages in Paris, and I was immediately surrounded by a gaping crowd. Feeling a little too timid before all these people to look for the cause of this sudden halt, I thought it best to call a couple of coachmen, and finding myself close to a large "*porte cochère*," soon had the consent of the "*concierge*," to run my carriage into his courtyard. I sent a mechanic for the vehicle a little while afterwards, and he found that a bolt had fallen into the motor and had broken a connection. I believe he fixed this in about five minutes and brought the carriage back to the charging station. Afterwards, going to see my friend, the *concierge*, thinking that 5 francs would be acceptable to him, I was very much amused by his generously assuring me that if I ever had another breakdown, he would always be glad to put his courtyard at my disposition. I have always tried to break down ever since this incident in front of his establishment in order to avail myself of the proffered kindness, but have never been able to succeed in doing so.

I may also tell you here of rather an amusing incident which helped to enliven a fete given some years ago at the Automobile Club Pavilion in the Bois de Boulogne. I had the pleasure of taking out Baron Von Zuylen in my Columbia carriage to this fete. There were a number of electric carriages drawn up in the garden of the Automobile Pavilion, and while we were at dinner we were startled by a sudden cry of fire. I must tell you that it had come on to rain heavily, and the downpour getting into one of Krieger's batteries, made a short circuit, causing his carriage to immediately burst into flames.

I believe this is about the only instance I have ever known where rather a serious conflagration was brought about by too much water.

But these are all reminiscences, and Krieger soon found a way to protect his battery. To-day the Krieger type of electric carriage for Coupés, Victorias, Landaulets, etc. is well established in Paris, and they have, I should say, perhaps 150 of them running about the streets. You will remember perhaps that this type of carriage has the steering and driving wheels in front ; there are two motors, compound wound ; the batteries are divided, part of same being in front and part in rear. The controller is a vertical one, having I believe at present 7 positions—4 ahead, one braking position, and two backward. The controller is of the recuperative type, and I understand works very satisfactorily. The control is hand-operated, and the lever is immediately beneath the steering wheel. This makes it very handy and quick in action. The front steering wheels with their attached motors, which now, by the way, are being hung on springs, are necessarily very heavy, and a big reduction in the steering gear is required. Pneumatic tires are used entirely on the front of motor wheels, while solid tires are being used on the rear wheels.

The Jenatzy type of vehicle is chain-driven, although this Company has manufactured some carriages with two motors driven from the rear, as we are accustomed to see here. Their distinctive feature, however, is a foot control in addition to the hand control ; that is, a lever worked by the foot throws in more or less resistance and consequently regulates the speed of the carriage. We all remember also the Sans-Souci or Torpedo carriage constructed by Jenatzy in which the motors turned the wheels directly without any gearing. I saw this carriage at one of its trial-speed runs (it was only constructed to go one or two kilometres), and it seemed to jump over the ground very much like a kangaroo ; I should say that it was in the air at least one-quarter of the time.

The firm of Jeanteaud & Co. have also constructed a number of electric vehicles, but rarely more than one or two of the same type, all of which, however, have features about them of more or less automatic interlocking can't-make-any-mistake variety. Jeanteaud's motor has usually been hung on a frame, and the carriages have been chain-driven.

There have been several other electric carriages built in Paris. Perhaps Mr. Milde has made more practical types than any other French manufacturer. These are more or less taken and modified

from the lines laid down by the Columbia electric carriage, of which I modestly beg to inform you there are a great many now running in France.

Now, let me divide gasoline carriages into two types, the carriage and the so-called *voiturette*.

The carriage type has come to stay. It is almost perfection to-day, while the *voiturette* class is still undergoing constant changes. The carriage type or heavier vehicle has been the more successful, as makers could put weight into their carriage, and in order to run at the now desired speeds, weight is what is necessary.



William Leon Graves in his 8 H. P. Panhard; his brother Robert is next to him, John Prince in tonneau.

The motors now being used in carriages of this type are so-called slow running, the number of turns per minute without acceleration being limited to about 800, and in motors where the stroke is short, the number of turns can be accelerated up to eleven and twelve hundred a minute without danger of pounding. There has been a gradual cutting down of stroke recently, the diameter of the cylinder and the length of stroke in many instances now being almost square. Almost all the successful motors of to-day are of a vertical type and are placed in front of the dash. Two cylinders are used almost universally in



carriages developing up to 8 H. P. and four cylinders above this. The inlet valves are so arranged as to be easily removed and examined ; the exhaust valves being made of a special steel are lifted by cams, and are so arranged as to be readily taken out ; the pistons are all fitted with oil grooves : bearings of the crank shaft are large ; in fact, all the bearings of the motor are exaggerated in every way, and on this account have long life and are not likely to heat. With a few rare exceptions two-cylinder motors are governed. Governors are usually of the ball type.

A method of control has been almost universally adopted in France, and this is entirely regulated, as you know, by the feet. There are two pedals, the left-hand one releasing the clutch, while the right-hand one releases the clutch and then brakes. The hands are therefore always free for steering purposes, and as the steering is done with a wheel and is non-reversible, except when very high speeds are obtained, the steering can be done very readily with one hand. The change gear is worked by a lever convenient to the right hand.

And this brings me to a question : Is it better to sit on the right or on the left-hand of a carriage ? In France the right-hand seat is, with one exception, universal, and I see no reason why they should not continue to sit on the right ; the change gear lever and emergency brake can be manipulated very energetically and more quickly by the right hand, and I do not see why it should be necessary to sit on the left in order to see round the carriage you are passing. We should school ourselves to pass slowly other carriages moving in the same direction at a slow enough speed to avoid accidents.

But little attention has been paid in France to the muffler. People have become accustomed to the puff-puff of the exhaust ; horses are no longer frightened, and in muffling the carriage too much there is some back pressure which naturally detracts from the maximum power of the engine. I have often heard French carriages called "noisy." I believe that they can all be muffled down to be as noiseless as can be wished ; this, of course, as I have just said, with a slight reduction of the maximum power of the motor.

The oiling devices are now taken care of automatically. When the motor is set in operation, oil is sent to the various parts of the carriage needing it, while grease is forced through tubes under pressure to the several bearings of the carriage needing same.

I have seen in several German carriages automatic oilers relying upon the water pressure made by the circulating pump. Now, some-

times the pump does not work properly. It is just at this time that you need more oil than at other times ; therefore, I believe it is a mistake to have one dependent upon the other. And while on this subject of pumps, I may tell you that the gear-pump is not in great favor in France. The high-speed centrifugal pump run by friction from the flywheel, has been adopted almost universally. The flanged radiator seems to give perfect satisfaction, although the Germans have put on some of their carriages the Bee-Hive radiator, cutting the supply of water down very considerably. But our good French friends argue this way against the Bee-Hive radiator : Suppose it takes 60 litres of water to cool an engine using a flanged radiator, and only 7 litres to cool an engine where a Bee-Hive radiator is used. If everything always worked perfectly, there could be no question, and the Bee-Hive radiator, although it costs more, would be preferable ; but if there be a small leak somewhere, if one of the joints in the water circulation be bad, it might take three hours for the water to leak out of a 60-litre tank, when same leak in the 7-litre tank would leave the tank dry in less than half an hour. Some day I have no doubt, the water circulation, pipes, joints, etc., will be so perfected as to allow of the Bee-Hive or other similar radiator being used.

I have still to say a few words about very heavy carriages and lorries in France. Very few large steam lorries have been built. England perhaps has made more advances than any other country in this direction. They are now building trucks there with four and five tons carrying capacity, but I have been told by a very competent English automobile engineer, that when these lorries are run by private individuals who have one or two in their service, they are more expensive than horses. When, however, more than five are run, and a proper staff organized to take care of them, they can be run cheaper than horses. In Germany there is a very large manufacturer who makes a specialty of gasoline-driven lorries, and the recent trials of same at the German, Austrian, and I believe Russian army manoeuvres, have given much encouragement, and it is my opinion that this field is a very large one. The arrangement of the various organs of these gasoline-driven lorries is very much the same as the general French type. They are much heavier and will stand a lot of knocking about.

It would hardly be fair to the agricultural interests of France if I did not refer to the rapid strides recently made in carriages propelled by the vapor of alcohol. At an exposition which took place last week

in Paris, a number of vehicles were shown which are driven by alcohol. I hardly think that this has any special future here in America, where petroleum is so cheap, but it will be interesting to watch and follow the development of alcohol propelled vehicles in France. Some facetious Frenchman has remarked that, France producing as she does, an immense quantity of alcohol, the depopulation of that country will perhaps be checked by making use of this alcohol as a mechanical motive power rather than using it to diminish the vital power of the human system.

I know that you will all be glad to learn—those of you who are more moderate in your ideas—that the speed question does not interest people so much now as it did a year or two ago. That carriages should be built with power to carry them uphill at a good rate of speed, and through sand and mud—everyone agrees—but this touring through the country at the rate of 60 or 70 kilometers an hour, has done much to stimulate legal action against automobilists. Thirty miles (or 50 kilometers) an hour is a very fair speed, and when one can make an average of 25 miles an hour, it would seem to be all that can be desired. In order to make this new means of locomotion popular outside of the more sporty element, one must relieve it of the dangers consequent on excessive speeds. Really, a jolt through the country at from 20 to 25 miles an hour, gives one the opportunity of seeing the country and enjoying the society of one's travelling companions. Perhaps some of you gentlemen present who enjoy the fascination of rushing through space at 40 or 50 miles an hour, do not agree with me here, but I am quite sure that when the effect of this exhilaration wears off, you will join us—the more rational and slower going “chauffeurs.” The day of the leather jacket, black trousers, and cap, has passed in France—people get into their automobiles as they would into their carriage, and with just as much certainty of getting to their destination in the time calculated as they would by taking a train.

The Automobile Club of America, of which I have the honor to be a member, by its enterprise and devotion, is emulating its friends of the Automobile Club of France, to whom I must say is due the credit of putting automobiling to-day in the popular place it holds with everyone. The great popularity of the automobile in France to-day, is not altogether due to the perfection of the French machine, but I must say that great credit must be given to the officers and members of the French Club, as they certainly have used all of their



energy, time and effort, to gain the public approbation for a means of locomotion, which, beginning in a sport, finds its own commercial side in its practicability. The officers of the French Club have done an immense amount of work in having passed reasonable laws referring to the running of automobiles ; they have stimulated the legislation and necessary appropriation for the maintenance of roads ; they have encouraged the establishment of modern conveniences and good food in the hotels along the lines of communication, which long since had fallen into desuetude consequent on the abandonment of the ancient diligences ; they have established intercommunications between coun-



A group of enthusiasts

Henri Fournier, Albert C. Bostwick, A. W. S. Cochrane, Bradford B. McGregor, J. Dunbar Wright, Andrew L. Riker

tries, and made it possible for the touring automobilist to disregard the national frontier.

A man may go now from Paris to St. Petersburg, or from Berlin to Madrid, with but few Custom House formalities. They have given to the public an idea of what automobiling really is by successfully managing the several automobile shows which they have organized, each one on a grander scale than its predecessor. I remember but five years ago the automobile show took up but little space in the annual bicycle show. Then, when the Palais d'Industrie was being torn down, they gave a special automobile exposition at the Tuileries.

The following year the space was enlarged almost three times, but it was still under tents in the Tuilerie Gardens.

In 1900 they made a fine show at the Exposition Internationale, while later in the year almost three-quarters of the Grand Palais was devoted to a most wonderful exposition, and this year the opening day of the Fourth Automobile Exposition was one of the fêtes of France.

We need not be afraid here in America of foreign competition. I will say here that our object should be, that our policy is, to take hold of a foreign machine and show the world how it should be built in quantities. The French are inventors—they are artists—their methods are those employed in the production of small numbers of any article, no two of which are ever exactly alike. European shop methods do not allow of their undertaking the manufacture of unlimited quantities of any one article on a thorough plan of interchangeability of parts. America and American methods must now take hold in earnest, and I see no reason why we should not become here the world producers of automobiles on a large scale.

Now is the time, gentlemen, to take hold of this business from a true commercial and manufacturing standpoint, to develop methods of producing a well-developed automobile—methods that cannot and shall not be obtained by any other countries of the world. We must stop manufacturing horseless carriages—carriages from which the shafts have been removed, for which the horse has not been taken out of his stable—carriages in which we have tried to hide away connecting rods, pistons, pumps and carbureters—carriages in which the whip socket has been used to hold an induction coil. We must start in manufacturing automobiles, and I feel sure that every effort should be made to induce the bringing into this country at the smallest possible duty, carriages which will show the masses what automobiles are.

Do not think me non-American. I am simply looking one step ahead of where the usual manufacturer looks. I believe that the kind of protection that we need is the protection against sentiment which has been more or less, as far as I can learn, until very recently, against the automobile, and this popular sentiment can be changed and cultivated so quickly that in a year or two from now we will laugh at the production of foreign shops.

And let me tell you that one thousand carriages have never been produced in any shop in Europe during any one year. Let us get all of the French carriages we can in this country. What can this com-

petition ever amount to for us when we take into consideration what it teaches us, and when we weigh properly in our minds that ever important factor, that factor which is usually forgotten, when we consider what the factor of time means ; in other words, what time we can save by so doing.

Gentlemen, there is a large and most complete "garage" situated in the very heart of the aristocratic district of Paris. This "garage" has been in existence for two years. It contains nothing but American electric carriages. There is another one in London, a stone's throw from Piccadilly Circus ; it consists of seven stories ; they are all full of nothing but American electric carriages ; I see that in a short while, both of these "garages" will have to be added to, four, five and ten-fold, because we shall send over gasoline carriages ; we shall beat them by the excellence of our workmanship and the reduced cost of our production.

The following were present at one or both of Mr. McNall's and Mr. Berg's talks : E. E. Britton, William Hazelton, H. B. Joy, Clifford V. Brokaw, Cornelius J. Field, W. D. Gash, Clarence M. Hamilton, General George Moore Smith, A. H. Chadbourne, Winthrop E. Scarritt, E. C. Jones, J. M. Hill, James Macnaughtan, C. S. Weston, F. B. Cochran, R. E. Jarrige, E. T. Birdsall, T. F. Flinn, John A. Hill, W. Van Valkenburg, Frederick Martin Lande, Lucius T. Gibbs, Samuel H. Valentine, Dr. J. Grant Lyman, H. Ward Leonard, A. Ward Chamberlin, Frank Eveland, J. C. McCoy, A. H. Whiting, H. P. Wertheim, J. Dunbar Wright, George B. Goldschmidt, Robert Esterbrook, A. A. Anderson, Winslow E. Buzby, George B. Adams, Herman B. Baruch, M. D., Calvin T. Adams, M. D., Robert L. Niles, W. Hawley, Albert C. Bostwick, Percy Owen, Samuel T. Davis, Jr., Andrew L. Riker, Dr. S. S. Wheeler, D. N. Seeley, Rhinelander Waldo, Whitney Lyon, Bradford B. McGregor, A. W. S. Cochrane, Jefferson Seligman, W. R. Warren, E. C. Chamberlin, M. D., W. R. Smith, and the editor of this magazine

The guests were F. W. Wurster, Brooklyn ; W. S. Mallory, Orange, N. J. ; M. J. Budlong, Elizabeth, N. J. ; W. M. Reynolds, New York ; Geo. M. Brown, Hartford, Conn. ; C. F. Nugent, New York ; H. S. Brown, Orange, N. J. ; H. W. Alden, Hartford, Conn. ; J. R. Whiting, M. D., New York ; G. A. Wertheim, New York ; H. H. Walker, Chicago, Ill. ; Fred Oakes, New York ; R. Moen, New York ; H. W. Crane, New York ; Foster Coates, New York ; George Hutchins, New York.



## A. C. of A. Committees for 1902

**A**T a meeting of the board of governors of the A. C. of A. held Tuesday, December 17th, the following committees were ratified: The chairmen are the first named.

Technical—Dr. S. S. Wheeler, Peter Cooper Hewitt, Louis Duncan, Lewis Nixon, L. T. Gibbs, E. T. Birdsall, and A. L. Riker.

Runs and Tours—Jefferson Seligman, George B. Adams, Frank Eveland, John Aspinwall, J. C. McCoy, and Percy Owen.

House—J. M. Hill, William Iselin, Bradford B. McGregor, Samuel H. Valentine, and Henry K. Browning.

Library—Albert R. Shattuck, James L. Van Alen, and T. C. Martin.

Membership—General George Moore Smith, Juan M. Ceballos, and Sidney Dillon Ripley.

Law—George F. Chamberlin, James C. Church, Dave Hennen Morris, Henry Rogers Winthrop, William W. Niles, and Morris Putnam Stevens.

Sign Post—A. Ward Chamberlin, Frank Eveland, and George B. Adams.

Good Roads—Albert R. Shattuck and George R. Bidwell.

Foreign Relations—J. Dunbar Wright, Clarence Gray Dinsmore, Hart O. Berg, and Eugene Higgins.

Racing—Albert C. Bostwick, Dave Hennen Morris, Clifford Brokaw, William Henry Hall, and George Isham Scott.

Auditing—George W. Young, W. M. Van Norden, and W. McMaster Mills.

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The wording of some of the regulations restricting motorists in the outlying French districts, would seem to presume that every, hitherto, reasonable man, at the psychic moment of grasping his lever becomes converted into either a fool or a malefactor, and, "fee, fi, fo, fum!"—thirsts for the blood of his countrymen, to crush them under the wheels of his juggernaut.

## Steam Pressures and Temperatures Used by White and Serpollet Carriages

THE great success of the White steam carriage in the recent American endurance test with also the notable performances on the other side of the Atlantic of the Serpollet steam carriage renders the subjoined article on superherated steam timely. The author is R. Lenke, and he read his paper before the Industrial Engineering Congress this year in Glasgow. As both the White and Serpollet systems use steam at not only a high pressure but a very high temperature, users in this country of the former cannot fail to get considerable information from Mr. Lenke's paper, which reads as follows :

In no branch of heat engine building has such an amount of study been spent as in steam engines, from Watt's time up to to-day. The economy of the steam engine is, in spite of all efforts, not the best, and the steam engine, in its highest perfection attainable at present, cannot claim the first place in comparison with other heat engines. And so the problem of generating and using superheated steam has become a question, from the solution of which a considerable stride in improving economy has been expected and really made.

Superheated steam is generated by the addition of heat to saturated steam. The behavior of superheated steam is similar to that of gases ; it is a very bad conductor of heat, and has the special peculiarity of being able to lose a certain amount of heat without becoming saturated or wet steam. The thermal capacity of steam is only 0.48, therefore very little heat is required to superheat steam ; but as the steam loses the heat as quickly as it acquires it, every passage conveying superheated steam must be well covered with non-conducting material. Although there are some losses when using superheated steam on account of the heat radiation, they are very much smaller, because the loss of heat from superheated steam has lower calorific value than the latent heat of saturated steam.

Superheated steam has a greater volume per unit of weight than saturated steam at the same pressure, hence one advantage and the higher the temperature the greater this advantage. At various pressures and temperatures the increase of volume may be taken from the following table:

TABLE I

PRESSURE.	390° F.	570° F.	750° F.
70 . . . . .	1.1	1.33	1.57
115 . . . . .	1.06	1.29	1.52
170 . . . . .	1.02	1.24	1.46

Table I shows that the higher the pressure is, the smaller the increase in volume ; and it is proved from practice that the advantage with lower pressure is indeed greater in proportion than with higher pressure.

The question may arise whether the increase of volume does not require more additional heat than the benefit derived from it is worth. To show this clearly, Table II has been prepared, expressing how many British thermal units less are required to produce 1 cubic foot of superheated steam than of saturated steam at the same pressure. For various pressures and temperatures the total heat per cubic foot is as follows :

TABLE II

PRESSURE.	SATURATED.	390° F.	570° F.	750° F.
70 . . . . .	233	219	192	175
115 . . . . .	350	337	297	267
170 . . . . .	492	485	432	398

To produce, for example, 1 cubic foot of steam at 115 pounds pressure and a temperature of 570° F.,

$$\frac{350 - 297}{350} = 15 \text{ per cent.},$$

less heat is required than to produce 1 cubic foot of saturated steam at the same pressure. With saturated steam engines, 20 per cent. to 25 per cent. of admitted steam is condensed during the admission period, consequently the practical steam consumption is very much in excess of the theoretical. Superheated steam does not condense during this period if sufficiently superheated, hence another advantage.

The economy effected by using superheated steam in engines is very remarkable, and, acknowledging this fact, a great number of steam users all over the world superheat the steam, although in many cases only a few degrees, yet a considerable saving in steam and coal is always the result. To obtain the full benefit, the required temperature of steam is 660° to 700° F., and to stand this temperature the engines must be specially designed. It is not sufficient to use mineral oil with a very high flash point, and anyone who tries to supply an



existing engine of any kind with steam at that temperature will have a very unpleasant experience even when using the above-mentioned oil.

The introduction of superheated steam into engines, largely influences the expansion of the heated parts. Engines always gave great trouble when the distribution of metal in the cylinders was not uniform, as parts with more metal expanded most and forced the cylinder walls toward the inside, and made the cylinder out of shape. When using liners in the cylinders, they were squeezed in at the ends, de-



White Steam Carriage

creasing the diameter and jamming the piston body if sufficient clearance was not provided. With steam jackets heated with steam of  $500^{\circ}$  F., the lubrication ceased, as the cylinder walls became too much heated, consequently it was found necessary to do away with jackets, or, if jackets were already provided, not to pass steam through them. Pistons constructed on the Ramsbottom type always worked satisfactorily, except in the case of pistons fitted with steel springs, when they were in contact with highly superheated steam. Any kind of

gun-metal gets brittle after a very short time, therefore valves, seats, and all parts in direct contact with superheated steam must be made of cast iron or other suitable mixture. Copper also loses about 40 per cent. of its strength at that temperature, consequently copper bends in pipes are not practicable. The best material for piping has proved to be wrought-iron and steel, each pipe being as long as possible, to have the least number of flanges. For long, straight-pipe connections, provisions must be made to meet the expansion, which is at 700° F., 0.0037 of the length, so that, for example, 100 feet of pipe extends 0.37 of a foot, or nearly 4½ inches.

Glands and stuffing-boxes at first frightened users, so the engines were constructed single acting to avoid the use of glands, but no serious difficulties have arisen on that account. It is advisable to place the stuffing-box as far as possible from the cylinder end to keep it well away from the hottest parts, and to allow as much of radiation as possible. Sufficient clearance in the neck bush should be made to allow for the expansion of the piston rod, and no metal with a melting temperature below that of the steam should be used.

Valves and valve gears are influenced in the same way by superheated steam. Valves containing many ribs or different thicknesses of metal (in section), such as plain slide valves of the usual construction, are not suitable for high temperatures. A Corliss valve of medium size will stand 480° to 500° F., but no more, and the latter temperature very seldom. The smaller the plain slide valves are the higher the temperature they will stand; large slide valves will hardly stand even slightly superheated steam if no provision is made for forced lubrication of the valve force.

Piston valves have proved to be most suitable for the highest temperature, owing to their uniform distribution of metal; but even with this sort of valve certain experience is necessary to get them in good working order. With ground valves, the ribs holding the boss for the valve spindle must not begin within the working surface of the valve, but have to be placed beyond that, because they expand and make the valve polygonal. The valves must be ground in other liners to those in which they are to work in the engine; the former liners have to be smaller in diameter to secure more clearance, to provide for the expansion of the valves; all ribs must be placed beyond the working surfaces of the valve. The cylinder expands in length more or less than the steam chest, causing thereby deformation of the latter, which must be carefully considered in design. It is best to work the

valves in liners fixed in the cylinder and with a small clearance, sufficient to allow for the deformation of the steam chest. With this construction it is of course necessary to make steam-tight joints between the several ports, and this is best done by stepping the liners and seats and using narrow asbestos rings for each step. The liner is then forced on to the small seats by set screws in the cover, these asbestos rings making a lasting joint. Long valves cast in one piece become scored, whether they are cooled from inside with exhaust steam or not ; consequently all valves should be made as short as



Gardner-Serpollet Steam Carriage

possible. Rings and springs in valves cannot be recommended, as the steam comes behind the rings and increases the pressure, causing friction, and therefore increased oil consumption. As it is impossible to rely on tightness of piston valves they must be made as small in diameter as possible. It may be stated here that superheated steam can travel at 30 to 40 per cent. higher speed through steam ports than saturated steam, and this fact has to be considered during construction.



Two piston valves working one in the other, as the Rider or Meyer valves, are impracticable for superheated steam. If engines of that type are intended to be worked with superheated steam, each valve must work in a separate chamber.

Double-beat valves can also be recommended as being safe, but they require a special arrangement, which is not always obtainable with every gear. Very often it happens when warming up the engines that the valve spindles get hotter than the gland boxes, and on starting the engine the friction between spindle and stuffing-box is greater than the power of the spring, and if the valves are not positively driven, they remain open during the full stroke.

An engine constructed in accordance with the principles just explained is as safe with superheated steam as any other engine with saturated steam. From an experience over several years, it is not necessary to be bound to single-acting engines.

Besides the economy, the use of highly superheated steam has some other advantages, which are also important. It makes the steam consumption nearly independent of the size of the engine, as a small engine has about the same steam consumption as a large one, as, for example, an 80-H. P., compound-condensing engine uses 10.45 pounds of steam at 160 pounds pressure, and a 100-H. P. engine uses 9 pounds of steam per indicated horse-power per hour. The use of highly superheated steam does not require high boiler pressures; 160 pounds is the highest to be recommended, as no advantage can be derived by exceeding this. As the amount of heat transmitted from the steam to cylinder walls, and vice versa, is much lower with superheated steam than with saturated steam, the whole range of temperature from boiler pressure to vacuum can take place in one or two cylinders, so that the use of a triple-expansion engine does not make the slightest improvement in economy. It is not intended to be understood that the author proposes to do away with all triple-expansion engines; for very large plants their use will be necessary for constructive reasons.

With regard to economy obtained from engines working with superheated steam, the gain is derived from the larger volume of the steam and the doing away with initial condensation.

Generally the steam consumption of modern engines working under good conditions may be taken as follows:

Single-cylinder condensing engines with saturated steam and a pressure of 90 pounds to 100 pounds per square inch, use 19 pounds

to 25 pounds of steam per indicated horse-power per hour, corresponding to 373 to 490 British thermal units per minute. The great difference in temperature between admission and exhaust steam causes much waste by initial condensation, and consequently this type of engine especially favors the use of superheated steam. With superheated steam the consumption has been lowered to  $13\frac{1}{2}$  pounds to 15 pounds, corresponding to 290 to 335 British thermal units.

Non-condensing single-cylinder engines gave consumptions of 15



Gardner-Serpellet 6 H. P. Touring Car

pounds to 18 pounds of steam per indicated horse-power per hour, which is about the same consumption as an average compound-condensing engine with saturated steam. The non-condensing compound engine decreases the consumption to 14 pounds to 16 pounds per indicated horse-power per hour. The compound-condensing engine is the most economical, and the economy obtained can hardly be reached by a quadruple-expansion engine working at a pressure of 300 pounds. The steam consumption of such an engine, either compound or tan-

dem, at 140 pounds pressure only, never exceeds 10 pounds per indicated horse-power per hour, and usually remains below, many tests having proved 8.5 pounds to 8.8 pounds consumption per indicated horse-power. To utilize better these temperatures, and to work with various loads with safety and nearly uniform economy, Mr. Schmidt has introduced the receiver heater with automatic valve. The idea is to keep a steady mean temperature of cylinder walls not higher than will make the lubrication unreliable for different rates of expansion.

A few words may be said with regard to the cost of a superheated plant. Superheated steam engines use on an average 30 to 40 per cent. less steam than saturated steam engines of the same type. Consequently, boilers can be made 30 per cent. smaller, and the difference in price will nearly cover the cost of the superheater. For the same steam consumption the superheated steam engine is cheaper, as it may be worked with a lower boiler pressure, and it is simpler, *i. e.*, instead of a compound engine with saturated steam, a single-cylinder engine with superheated steam may be used, giving the same or better results than the former.

With regard to oil consumption, it was found not to be more than that of an ordinary saturated-steam engine. For example: A 120 indicated horse-power engine used in 24 hours 4 pounds of oil, and a 300 indicated horse-power Corliss compound engine 2.2 pounds in 10 hours for both cylinders.

In view of the great advantages of steam superheating and the great number of engines running at present satisfactorily, it is astonishing that a few failures have caused prejudice among some engineers, who make the general introduction of the use of superheated steam very difficult. It will be worth mentioning that the results of a great number of trials have always proved a great saving in steam and coal, and even with small plants and simple piston-valve engines, almost the same good economy is obtainable as with large engines with most exact valve gears. It is therefore recommended that superheated steam should be used in connection with all engines; the only question to be settled is the degree of superheat which largely depends on local circumstances and the construction of the engine, and this matter should be left to the judgment of an experienced engineer.



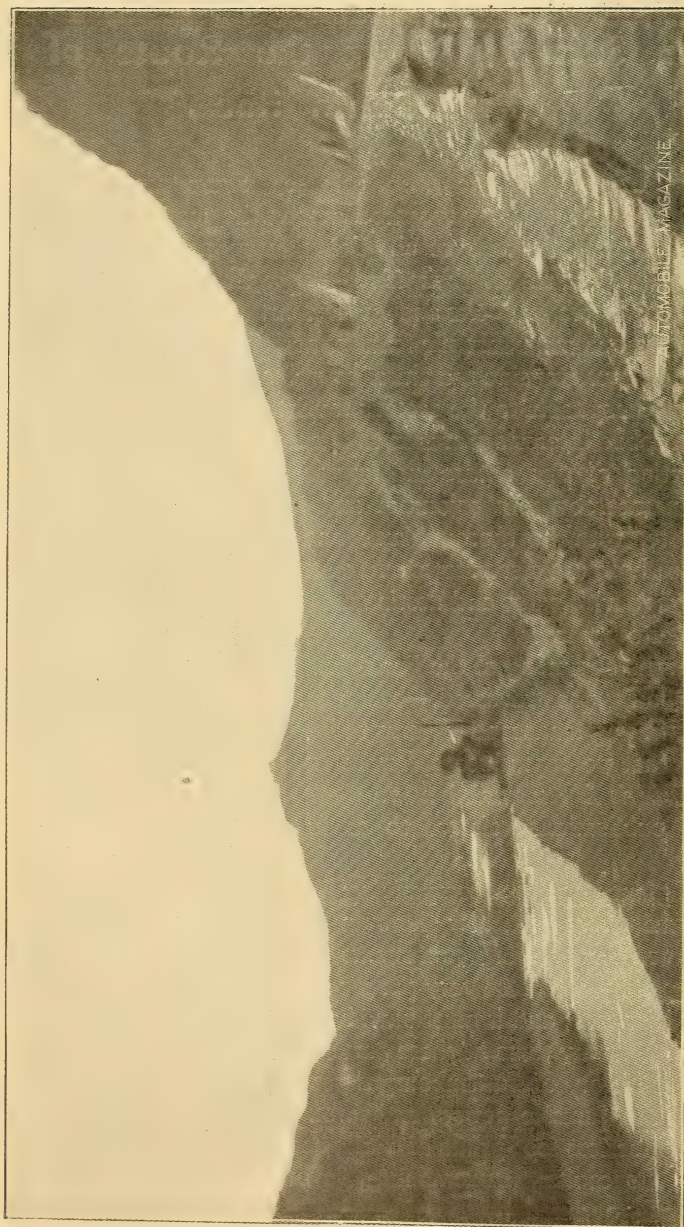
## Some Scenery Along the Route of the Paris-Berlin Race.

ON that side of the deep, salt sea where dwell our French brethren no effort is spared among the motorists,—who share that rightful pride of all their countrymen in the advantages and natural beauties of their land,—to facilitate touring by issuing guide-boards, maps, books and endless articles indicating the principal sites, monuments, artistic features and historical landmarks to be viewed en route outside the cities, as well as the courses best adapted and most hospitable to the zealous tourist. Every periodical devoted to automobile interests shares in the general movement to disseminate information of this nature and furnish practical “arrow-heads” of location whereby both sojourner and inhabitant may become easily acquainted with the thoroughfares and historical characteristics, and travel without the discomforts and distractions attendant upon a drifting voyage with paths and destinations but dimly outlined in the mind of the auto-wayfarer.

At the beginning of the Paris-Berlin course the Grand-Duchy of Luxembourg was traversed,—a territory so picturesque and typical of the striking landscape features to be enjoyed by the enviable tourist abroad that we reproduce a few of its salient points as depicted in *L'Avenir de L'Automobile et du Cycle*, one of the most enterprising of the publications referred to as furthering the above-mentioned aims.

A glance at the accompanying illustrations will enable the reader to see that these particular views do not represent parts of the great race where the leading contestants made their 60 and 70 miles per hour speed ; but these very parts were traversed by every wheel that was in that race, and it must have been interesting to see the various speeds shown by them at these particular points.

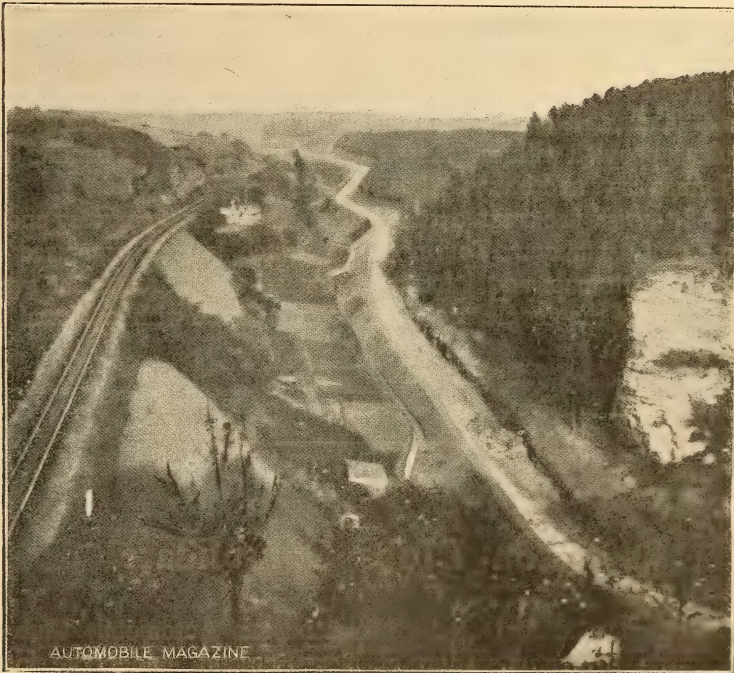
The history of Luxembourg dates back to the most remote ages, even to the Jurassic period, and throughout the country are distributed numberless foot-prints of Time, bespeaking the era of the Roman reign. Its capital, Luxembourg, is built on the very summit of a rocky pile, outlined by the river Alzette ; a city of pleasing aspect, filled with noble buildings and generously endowed with fine parks



Along the River Sôre. Chateau de Bourscheid in the distance

and boulevards, from whence one may gain an admirable outlook owing to its elevated situation. Formerly an old fortification, destroyed in 1867, showed many most interesting traces of its ancient origin that are still evident,—notably a well-preserved, square tower, dating from 1398, and two other towers which once formed the city gates; and a neighboring plateau, say the historians, served for a Roman encampment long years ago.

The grand-duchy is very hilly throughout, presenting altitudes



The Sûre valley region

varying from 200 to 550 meters, offering difficulties to the tourist that stimulate ambition and offset all danger of monotony, but its valleys afford most favorable situations for excursions and all desirable resources are extended to the motorist. Old ruins and ramparts crown the heights along the valley-ways encircling the mountains; among others the famous ruins of the chateau of Vianden wherein Victor Hugo took refuge during the war of 1870.

Many curious legends belong to these old chateaus situated in



the wildest regions along the course, now winding through narrow passages cut through the precipitous sides by the river-courses (as shown by the illustrations), then on by foaming cascades falling over gigantic rocks worn into the most grotesque shapes and overshadowed by dense forests, the whole forming a landscape of marvellous grandeur and beauty.

Victor Joly, in his work on the Ardennes, aptly describes this incomparable scenery : " The valley seems the bottom of an immense crater whose huge sides, jagged and broken, are profiled against the sky in sharp, stone needles. Over a rocky bed, in the depths, flows the Sûre which issues from a dark gorge formed by one of the mountain recesses . . . . Solitude and silence reign over all and recall the sinister landscapes of the Appenines where Anne Radcliffe locates her chateaus, peopled with mysteries and spectres and feudal bandits defying human laws and braving those of God."

All tourists are assured of receiving the utmost courtesy and aid from the Luxembourg Touring Club, which is well organized and equipped with maps and information for traveling through the grand-duchy, where the people are by nature endowed with a liberal and kindly spirit.

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## Boston Clubs Consolidate

THE consolidation of the Massachusetts Automobile Club and the Automobile Club of New England, under the former title, has been effected. Following are the officers : President, Colonel James T. Soutter, Massachusetts ; first vice-president, Eliot C. Lee, New England ; second vice-president, Dr. Joseph C. Stedman, member of both clubs ; secretary, Dr. F. L. D. Rust, Massachusetts ; treasurer, Royal R. Sheldon, New England ; directors, A. W. Stedman, Chas. J. Glidden, Geo. E. McQuesten and Henry Howard (New England) ; and J. R. Bridge, Newton Crane, E. L. Reuter and Dr. W. A. Rolfe (Massachusetts). The new club has about 150 members. It will occupy the Massachusetts Club's house on Boylston Street. The dues will be \$50 a year.

## An "End to End" Journey Over the Long Course

By JOHN STIRLING

ON Friday, July 17, I decided to run over what I believe to be the most trying course for a vehicle of any description — namely, John O'Groat's House to Land's End—in order to put to the test a light motor car which my company is placing on the market and which will be known as the "Stirling Parisian" phaeton. Next day a stock car was oiled up and dispatched by train to Wicke, where I followed it on Monday morning, after telephoning Messrs. Peter Lee & Sons, High Street, Glasgow, to have a supply of petrol for me at Perth and Carlisle.

After an early breakfast on Tuesday morning, July 30, John O'Groat's was left behind in a driving mist. The roads had a thick coating of dust, for rain had not fallen there as it had done the previous day in the South. The surface was far from good, being covered in many places with loose stones ; especially was this the case on the dangerous hills at Dunbeith and Berriedale (the latter with a gradient of 1 in 9). At Mound Station we took a wrong turn which sent us round by Lairg Hotel on the way to Bonar Bridge, adding ten or a dozen miles to the journey to Tain, but this was reached in time for lunch at the Royal Hotel. Thereafter we drove on through Dingwall and Beaully to Inverness, which was reached at 6. Passing through Dingwall rain began to fall heavily and continued until within 10 miles of Inverness. After dinner the weather looking more settled we decided to continue our journey, which we did at 8 o'clock. We had scarcely cleared the city when rain again made its appearance, and the roads were in the worst possible condition. For the next 15 miles we had literally to plough our way through soft spongy clay and mud of a dangerously greasy sort. The low gear was inevitable if the car was to be kept parallel with the road. The high gear was slipped in only occasionally when the road surface became harder. Darkness coming on and neither the roads nor the weather improving, we stopped for the night at Freeburn Inn, having covered 180 miles for the day.

Leaving Freeburn at 7.30 a. m. over roads still wet and having some stiff gradients, we traveled on through Kingussie and over the Grampians, the highest point on the road being 1,500 feet above sea level. A fine run down the other side was obtained in spite of the loose state of the road's surface. The crawling pace of a train, just here on the Highland line, drawn by two powerful engines gave us a reminder of the steepness of the grade. Some time before the summit was reached the sky was clearing, and by and by the sun shone out brilliantly and continued with us as we quickly passed through Blair Athole, Killiecrankie Pitlochrie, Dunkeld and into the fair city of Perth, lunching here at the station hotel. Our petrol store was renewed here, and about 3.30 we left for Edinburgh. Burntisland was reached about 6 and the Granton Ferry crossed at 6.30. We reached the Royal Hotel, Princes Street, Edinburgh, shortly after 7 and in time to keep a business appointment at 7.30. During the last two hours rain had fallen plentifully and Princes Street was almost deserted when we turned into it, after a long, steep climb up Pitt Street. Distance for the day, 140 miles.

Edinburgh was left next morning at 5. The rain had ceased, but the roads were heavy in places. Conditions, however, improved as we passed through Biggar and on to Abington, soon reaching the fine "Glasgow and Carlisle" road. After passing through Crawford and Elvinfoot we soon began the ascent to Beattock, followed by a flight down the gentle slopes on the south side. The road continued good through Lockerbie, and Carlisle was reached at 10.50, the run of 98½ miles having been done on one charge of the petrol tank, which holds 2 1-5 gallons. After a good meal and replenishing the oil tanks, we left Carlisle about 12.30. A few miles out we met what appeared to be a Wolseley car making its way north. The road over Shap Fell was in fair condition, and it was only necessary to get down to the low gear nearing the summit, the rest being easily surmounted on the second speed. Good running was continued into Kendal, where another meal was taken on board. Weather and roads continued fine through Milnthorpe, Carnforth and Lancaster, but rain and wet greasy roads were again encountered 10 miles out of Preston, our stopping place for the night. This was reached about 6.45. Run for the day, 186½ miles.

Leaving Preston after an early breakfast on Friday, having had our tanks refilled the previous evening, we travelled through Wigan and Warrington, after which the road was somewhat difficult to find,



being without the aid of the strip map, by Gall & Inglis, for this portion of the route. The road taken, however, was through Norwich, Sandback, Stafford, and as I had an appointment to keep in Birmingham, I travelled thence through Walsall, instead of the more direct route. After a stay of 45 minutes we passed on to Broomgrove where a late lunch was eaten, and the car oiled up. Good running was made through Worcester on to Gloucester, and thereafter to Bristol, which was reached shortly after nine, putting up at the Royal Hotel. Distance for the day 193 miles.

Making an early start on Saturday morning, we entered the last lap of the journey. We found some trouble in getting on to the right



John Stirling's "End to End" Parisian phaeton

road out of Bristol, going several miles out of our way through a misunderstanding. Leaving Bristol, the roads were not the best, and farther South where traction engine work is common, they were badly cut up. However, they improved considerably as Bridgwater was approached. We stopped to shake hands with Mr. Roberts, coach-builder, who is also an enthusiastic autocarist, and in addition to his own business undertakes the overhaul of motor cars of every description. Although it was our intention to spend only a few minutes here, we found an hour and a half had been absorbed in looking over Mr. Roberts' well-equipped works and showrooms.

The roads were excellent to Taunton and fair to Exeter. Leaving Exeter we experienced a sharp thunder-storm, and we had to face two hours of heavy rain, as we climbed the Devonshire Hills, some of which are as trying as those in the North of Scotland. The weather thereafter cleared, and although the roads were still heavy, we had no more rain on the journey. The route now took us through Launceston, Wadebridge to Truro, where we enjoyed an excellent supper. We then continued to Penzance, where most good people were evidently asleep, and after leaving the well-lighted streets there we plunged into the blackness and darkness of the road leading to "the End." The good folks of the house had turned in, but very quickly "turned out" on hearing the sound of our motor, and received us with every hospitality, and thus our long journey was ended. Distance for the day 199½ miles.

During the whole journey of 900 miles not a bolt or nut worked loose. The travelling time of the trip was 59¼ hours. The petrol used 28 gallons. The motor worked perfectly throughout. It required attention only once, and that was at Tain. We found it did not start up so briskly after lunch, and washed out the inlet valve in which we found a little grit. Although the car is fitted with both tube and electric ignition we used the latter entirely. The sparking plug was never cleaned or even taken out for examination until a few miles south of Launceston, when a few "misfires" were for the first time observed. This was after we had covered 817 miles. On inspection the plug was found "sooty," but otherwise in perfect condition. The cooling water used was 4 gallons.

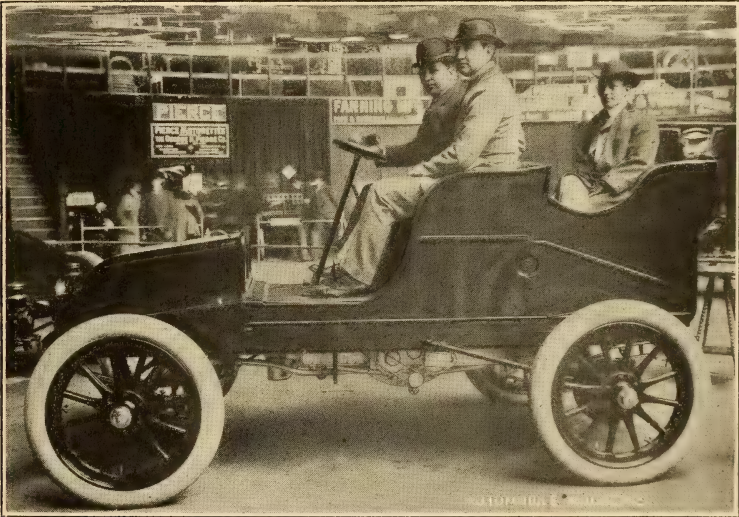
A word should be said of the tires, which were "Dunlops." They went through the entire journey without a puncture, and were not even re-inflated once by the way.

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Messrs. Adams & McMurtry Co., the well-known agents of the Packard carriage in this city, have decided to move their quarters from the lower part of Fifth Avenue to 317 and 319 West Fifty-ninth Street, just off the Circle at the southwest corner of Central Park. Their garage will make the fifth important one in this prominent vicinity.

## Winton Touring Car

THE new Winton \$2,000 touring car has a motor built on the same general lines as the Winton racer, but it is better adapted for touring on account of its being simpler. The motor has two cylinders and is rated at 15 H. P. The car complete, with all tanks filled and tonneau attached will weigh less than 2,000 pounds.



Winton Touring Car—W. N. Murray at wheel, George A. Ballantine beside him, W. C. Carnegie in tonneau

It will carry two people comfortably on the front seat and two in the tonneau. The seats are 4 inches higher than in other models, but the center of gravity is lower than is the case in any of the previous styles.

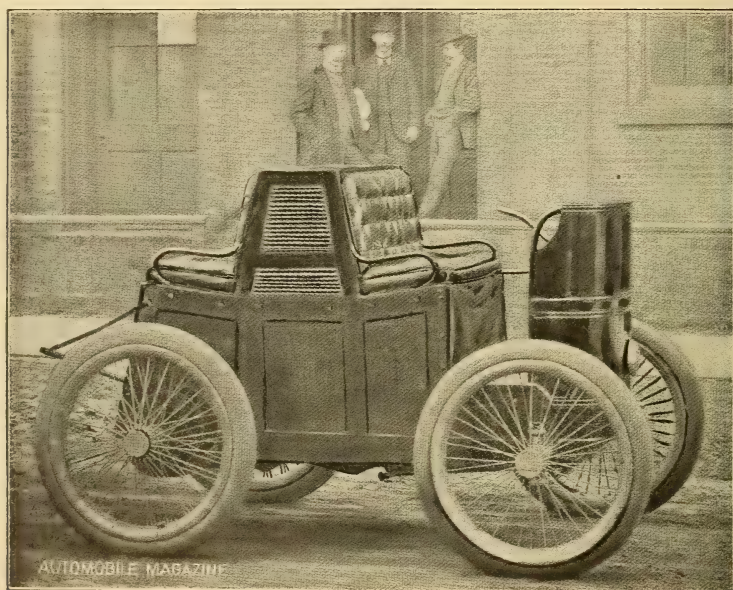
This new car has a decidedly improved system of gearing but holds absolutely to the Winton first principles. The low gear frictions are of increased size. Plates are made of steel. The gears are of bronze and steel. It has an entirely new type of steering gear, very sensitive, easily manipulated and in direction is absolutely positive. Should the forward wheels meet with a forceful resistance—a stone fence, telegraph pole, or the like—the steering wheel will yield and



the gear absorb the pressure instead of remaining rigid and endangering the axle.

All the tanks—gasoline, water and lubricating oil—are forward, back of the radiating coils, within sight and easy of access at all times.

The gasoline tank has a 10-gallon capacity, water tank  $8\frac{1}{2}$  and lubricating oil 2. Ten gallons of gasoline will, under almost any adverse road conditions, be good for 150 miles of travel. Where road conditions are better than the average the possible mileage on one filling will be nearer 200 miles.



An early Winton Motor Carriage Company production. On May 30, 1897, Mr. Winton sent this car a track mile in 1 minute 47 seconds

This car is equipped with wooden wheels, each wheel having twelve  $1\frac{1}{2}$  inch spokes, artillery hubs and steel clincher rims holding clincher tires. The car frame is made of riveted angle steel and is supported by semi-elliptic springs. There is an absence of under reaches and consequently no cause there for the slightest noise or rattle. Brakes are the very best ever made. Shoes operate on large inside hub flanges. They will hold the car, forward or back, on any grade. Wheels are run on ball bearings forward and roller bearings rear.

Carbureter, gasoline float and inlet valve are in a solid piece. This whole part may be removed by the unturning of four visible nuts. With this part out the exhaust valve is in sight. This valve may be removed without the trouble of taking out piston.

A jump spark is used for ignition. The rear axle has the benefit of a tri-truss support. There is a spur differential—bevel gears in this being omitted.

An automatic air governor controls and insures a minimum motor speed when car is standing still. Having two cylinders the counter-balance and eccentric are no longer necessary. The muffler is the very best ever placed on any gasoline car. It is equipped with a cut-off, useful when fast work is desired.

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## Mr. Winton's Opinion

ALEXANDER WINTON is not at all alarmed over the fact that so many Americans are driving foreign built automobiles, for, according to his Auto Era, he says there is quite a change of sentiment on the part of American users on this subject. Mr. Winton's words are: "The desire to get hold of foreign machines and the disposition to think they are better than American made have been overcome. The foreigner does not hold one-fifth of the ground that he did a year ago. It has been discovered that the American machines have been built to meet the needs of Americans and to run upon American roads. The foreigners are beginning to admit this."

Mr. Winton's company has given charge of its New England interests to Harry Fosdick of Boston. Mr. Fosdick is not new at automobiling and there are few agents anywhere who have a larger acquaintance.

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The Winton Motor Carriage Company has increased its capital stock from \$200,000 to \$1,000,000, to meet demands occasioned by the growth of its business. It is the company's intention to open branches in several of the chief cities during the coming year, to properly care for its distributed customers.

## Automobile Club of Syracuse

ONE of the most active and prosperous organizations of automobilists in this State is the Automobile Club of Syracuse. It is the third largest club in the State, those leading it being the Automobile Club of America and the Long Island Automobile Club. The Syracuse organization was formed about two years ago and is



President T. D. Wilkin

destined to be among the leaders if its rate of increase in membership since its formation is any criterion of the future. The club now has an active resident membership of thirty, which comprises some of the wealthiest and most influential residents of the Salt City.

It is interesting to note in the list of members the names of those who were formerly recognized authorized in the manufacture of bicycles for which Syracuse became known all over the world. The



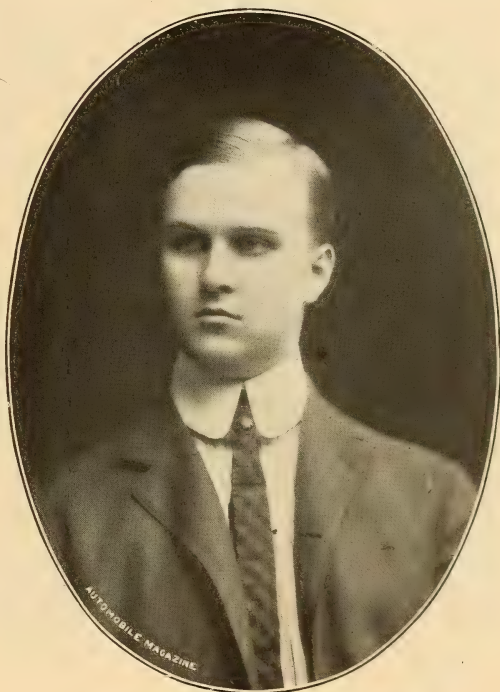
most prominent individual, no doubt, in this connection is E. C. Stearns, president of E. C. Stearns & Co., who were the makers of the once famous "Yellow Fellow." The Barnes Cycle Company is likewise represented by Charles F. Saul, its former president, and William Van Wagoner, who made the Barnes "White Flyer" famous.

All of the above named are very enthusiastic autoists and are frequently seen in the make of carriages they are now manufacturing.

Perhaps the best-known member of the club is Lyman C. Smith, president of the Smith Premier Typewriter Company. Mr. Smith is a very keen automobilist and is often seen in his handsome steam surrey. It is generally thought that he will be the possessor of a very handsome and fast gasoline car next year.

Steam carriages are most in evidence as to numbers, there being nineteen owned by club members, while the gasoline machines number but seven. There are four electrics. The handsomest and most costly vehicle in the city is the electric stanhope made by the Buffalo Electric Carriage Company, which is owned by Frederick H. Elliott, secretary and treasurer of the club.

It is expected that the club will double its present membership before another season passes, and there will be a number of large, fast gasoline machines among the club members, orders for several having already been placed for spring delivery.



Secretary Frederick H. Elliott

The club took much interest in the recent endurance contest. Few of the contestants were aware of the fact that the signs and arrows along the route from Syracuse to Weedsport were placed under the direction of the club. The entertainment of the contestants by President T. D. Wilkin and Secretary-Treasurer Frederick H. Elliott is still fresh in the memory of many. It was these officials who met the first arrivals on the run at some distance out of the city and escorted

them to the control at the Yates Hotel.

At a special meeting of the club, held Monday evening, December 2, it was unanimously decided to accept the invitation of the Automobile Club of America to affiliate with it, and Secretary Elliott was instructed to advise the A. C. of A. of this action, and was also empowered to sign the agreement in behalf of the club.

At this meeting the subject of holding a race meet next year was informally discussed and the idea met with the approval of all present.

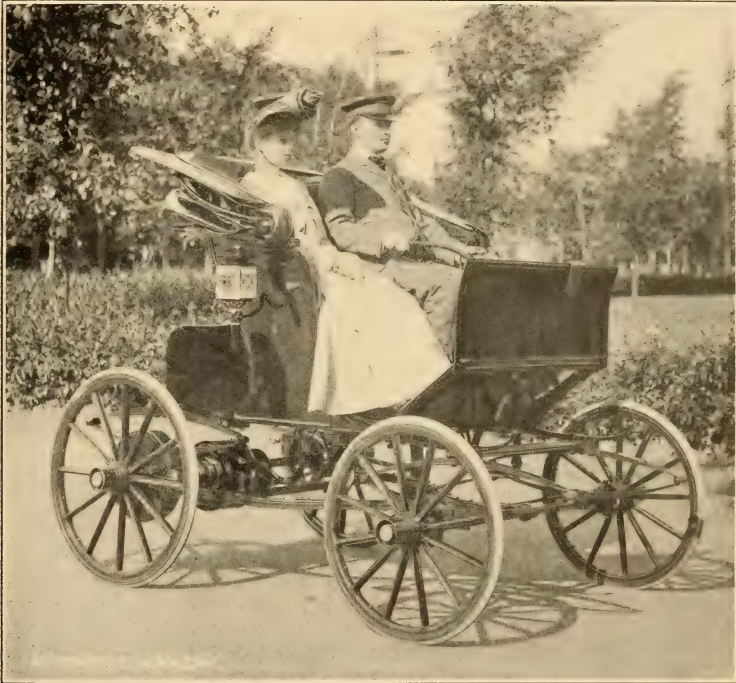
The Lakeside Boulevard would be fine for holding a five or ten mile race, and the new one mile track of the State Fair grounds joins it. This subject will be more thoroughly looked into at the next regular meeting of the club which will be held in January, when officers for the ensuing year will be chosen.

Following is a list of the membership: W. L. Brown, A. T. Brown, C. A. Benjamin, Geo. M. Barnes, G. K. Betts, F. C. Brower, Dr. E. W. Belknap, J. W. Cronin, Dr. Gregory Doyle, Stephen S.



Vice-President Dr. Gregory Doyle

Dayan, F. H. Elliott, W. J. Fredericks, F. W. Gridley, A. E. Hughes, Dr. H. B. Hawley, Dr. J. M. Veese, F. E. Norton, C. F. Saul, E. C. Stearns, P. F. Stephani, L. C. Smith, H. L. Trebert, T. D. Wilkin, G. E. Warner, Wm. Van Wagoner, John Wilkinson, Dr. W. W. Williamson, Louis Will, F. L. Wrightman, Edward Zahm. Officers—President, T. D. Wilkin; vice-president, Dr. Gregory Doyle; secretary-treasurer, Frederick H. Elliott.



Mr. and Mrs. Frederick H. Elliott in electric stanhope

## Here is a Far-away Customer

**I** SEE by your magazine that one can make his wants known to you, and you in turn, will help him to get what he wants. I want an automobile suitable for this country, strong and durable and not stylish. Can you put me on to the way of getting one? I don't know whether gasoline or steam is best. I don't want to go high in price.

F. W. HART.

GREENWOOD, British Columbia.



## An Eligible

(SAVED BY AN AUTOMOBILE)

**B**LESSED be Saint Auto ! I am still eligible (though fractured), still a clubman, and may still linger in the train of the latest debutantes or flirt in the conservatory with the latest widow. For five years I have hovered on the brink of matrimony, hesitatingly, as one peers into a deep gulf too dark to fathom, and each successive retreat only brings me to a new pitfall digged for the unwary—as bear witness my most recent exploit and escape :

Now, among other venerable personages interested in my conjugal welfare, I have an aunt who has sworn she will make a brilliant match for me no matter what trouble it may cost her. Never deviating from her resolution, she constitutes herself my shadow at all the social functions which I favor with my eligible presence in the winter season, or at the summer resorts which we cultivate. Dear, attentive auntie ! at intervals of ten minutes or less she plods to my side and, bending over me till all her armored corpulence creaks with the strain, whispers : “ Oh, look, dear nephew, over there—that charming brunette. Good family, very rich ; an old uncle almost on his last legs, who is sure to leave her a fortune—what more can you look for ? I know them—you must be introduced ; that’s understood, so say no more about it.”

The “ charming brunette,” on nearer inspection, proves to be an over-ripe female on the thither side of thirty, with eyes like gimlet holes, an imperceptible nose, thin hair and sharp shoulders.

But, undaunted, auntie enthuses again :

“ See that beautiful girl passing on the arm of the general ? Now there’s your chance ; a military family. They are looking our way—the general must make your acquaintance.”

But the “ beautiful girl ” has the figure of a horse-guard and over-tops me by a head ; her nose like a pruning hook, peremptory manner and loud voice, indicate all too plainly her origin from a “ military family.” And as I have always thought that in a well-regulated household the wife should be unable to eat her soup on her husband’s cranium by reason of her excessive height, I obstinately refused to be presented to the general.

I might thus go on indefinitely relating the fifteen or twenty similar, futile attempts of my excellent aunt, even recalling the instance of a marriageable doctress who tenderly held my hand between the dances—to feel my pulse and assure herself of my state of health, as I afterwards discovered. But I prefer to ignore these embarrassing souvenirs and lead up to my story of the automobile as a bachelor-saving institution.

It was still my aunt who acted as intermediary agent in this affair



An Eligible De-Dion

—at the big society ball where she again decided my fate, announcing that this time the inevitable had arrived: “Handsome girl, accomplished, enthusiastic sportswoman and a millionaire—an orphan as well. You must call on her to-morrow at her residence—your future residence if you follow my instructions. You have only to accept her invitation and press your suit with ardor; she is already favorably inclined towards you.”

“Handsome girl”—well, not a bad beginning, and perhaps for

once there might be some truth in the old lady's glowing statements ! " A sportswoman "—um-m-m—that had never been exactly the woman of my wildest imaginings ; but then, in these days, all women with good physical training are called sportswomen, and, at least, such a term is indicative of robust health in the person to whom it is applied ; " and a millionaire ! "—a fact not to be trifled with, either, any more than the palatial residence accompanying it. And, finishing touch to this delectable train of thought, " an orphan ! " What luck ! No step-mother, or other encumbrances in the line of relatives whose opinions must be jealously respected and stupid superstitions avoided. The dear little " orphan ! "—my heart warmed towards her already.

At the appointed time I sounded the electric bell of my " future residence," according to my respected relative's prediction.

On my way through the hall I encountered something which I was unable to relegate to any precise sex region ; *it* was done up in an ulster and might have been either man, woman or chauffeur. My side glance discerned an enormous visored head-gear beneath which were two black glass discs in the place of eyes and the mere sharp tip of a nose, all barely visible through a thick veil, which, alone, revealed the possible sex of the wearer.

I was just disappearing through a doorway when an imperious, sharp voice pierced through the impenetrable veil, demanding : " Are you the chauffeur ? " I was transfixed with astonishment. The voice continued, " It's high time you were here ! You want to get another speed-gear on you if you're going to *chauffe* for me ! " I recovered sufficiently to attempt extricating myself from this case of mistaken identity, but before I had cleared my throat, *it*, of the shaggy ulster, had approached abruptly and, seizing my shoulder with a masculine grip, twirled me about for inspection, ejaculating with military precision : " Turn 'round ! A little too short, shoulders rather too sloping, but good torso and fine muscle !—not bad ! You'll do." Recovering my correct attitude at this point, I said, presenting my card : " Pardon me, but I have come from Madam A——, my aunt."

At my aunt's name the ulster seized my right hand with a vigorous clasp and, shaking it with a mechanical, emphasized motion, exclaimed :

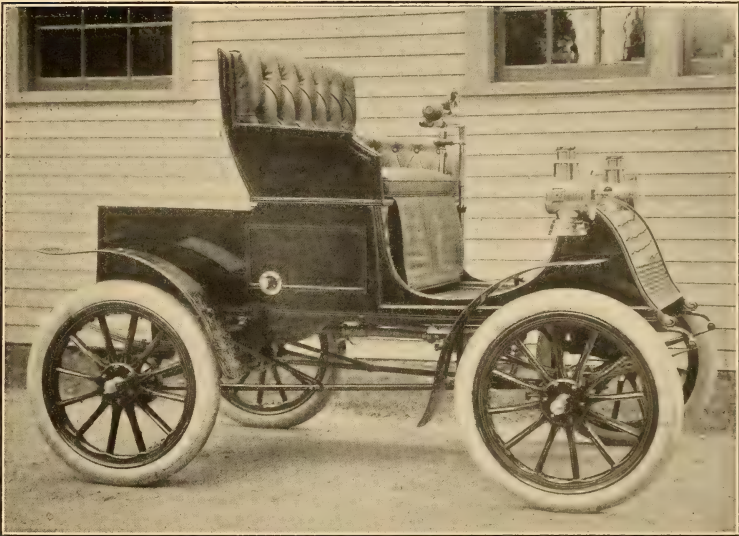
" Madam A——, my dear friend ? and you are the nephew ? Oh, I say ! but you're not offended, I hope, because I took you for the



chauffeur? To think that I have waited for that stupid chauffeur since noon to fix my electric runabout which I broke yesterday! But never mind, we'll take my racing car, 40 H. P., no less, and we'll *whoop her up!* Come on! I'll show you how I can manage her."

The ulstered figure helped me to a seat with its strong, right arm; the long, white, mechanical monster, with its rakish air, seemed intent on machinations of its own as it waited its owner's touch of command.

Then my gentle intended—for I had at last recognized in the



Autocar Stanhope

shaggy ulster bundle the pretty little "orphan" with six figures to her bank account, started the motor, climbed to my side, pushed one lever, pulled another, and we were in motion.

Along the straight route, bordered by endless elms, we moved as in a dream, the speed being unrealized, save for the trees on either side that seemed to file past at a dizzy rate.

Five minutes of silence while I was trying to control my breath sufficiently to venture a remark—something about the weather, or any weak compliment, merely as a start, but the force of the air choked

the madrigal in my throat, and I remained stupidly blinking with set muscles and an *auto-matic* grin.

On her side, my companion seemed perfectly at ease. "Charming, isn't it," she said, "this unconventional manner of becoming acquainted? I always was a Tom-boy. This freedom from restraint—this fascinating sport and comradeship is so pleasant. You see how delightful this will be for both of us, if we understand each other: There's the automobile, the air-ship, football and golf. I'm sure you indulge in all of these, and then I've always wanted to shoot Niagara Falls in a barrel—but I didn't like to go alone. Now, if we are married, we will try it together in the same barrel—you see what an amusing experience that will be."

I was still gasping and endeavoring in vain to say something, but the wind cut my face like a cat-of-nine-tails. We must be covering 100 miles an hour—not an inch less. My hands were becoming cramped with the strain of holding on to the sides.

But the pretty "orphan" continued, nonchalantly: "Do you like wrestling? I'd rather box and fence than sit by the fire and read novels any time."

Then, for the first time, the gentle creature bent towards me for an answer in the affirmative, and for two seconds her attention was distracted!

What happened, I know not, but in less time than it takes to relate it, I felt the white monster, whose opportunity had come at last, rear to its full height, and give one prodigious leap over some obstacle, which must have been an embankment; I described an immense parabola through the air—like a projectile, as I dimly remember, and then nothing—night—oblivion!

Twelve hours later I revived consciousness, only to find myself in bed, in one of the profusely decorated chambers of the "orphan's" mansion—it was filled with the odor of antiseptics, and I was bandaged like a mummy. It appeared that I had sustained a light (?) fracture of the skull and dislocated my left hip.

I could gain no information from the hospital nurse who was in attendance upon me, as to the past, present or future state of the parentless ulster, which was driving that racing-machine at the time of the accident, and since I have been taken to the hospital an impenetrable silence meets all my inquiries. I have no real interest in the subject any way, and I am not savage by nature—far from it—but I am just waiting for my aunt to approach me with one of her brilliant

propositions, when I have become convalescent ! I can see by the glitter of her eyes, that she has some new scheme in tow, which only the presence of the attendants prevents her from broaching.

A. L.

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## An Automobile Speedway

**T**HROUGH one of the most picturesque parts of New York city, Bronx Park, a new automobile road is being constructed.

Within probably two months it will be ready for dedication to public uses, according to the present plan of the construction company that has the contract for building the course.

The road begins with a loop near the Pelham Avenue bridge across the Bronx River, running southwest toward the Kingsbridge road, passing through a most attractive portion of the Bronx Park and the Zoological Gardens. The termination of the course will probably be some point still further on, connecting the whole upper park system by the first automobile course in the world.

The scheme of improvement, according to the authorities in charge of the enterprise, is in keeping with the entire series of public improvements which have taken place here within the last few years. It is designed to make one more feature for this fast growing district that has occupied the minds of the best engineers and a competent army of men for some time.

While the new automobile road will not be open to the public as a speedway for automobiles, like the Speedway on the west side, for horses for instance, where racing may be indulged in—the devious windings of the road, as well as its narrowness making this dangerous—it will offer an automobile spin to any who are so inclined for a nominal fee.

At the entrance there will be automobiles for hire. These vehicles will probably belong to the park, just as the road, built at the expense of the city, will remain a part of the park system.

The road, upon which a great many workmen are employed, is already about half done. The blasting through the more stubborn



portions is about completed, the cracked stone laid over the fragments of dynamited boulder and the whole surmounted with concrete. It will be as perfect a piece of work for the purpose designed as ingenuity can render it, and will be highly picturesque. The park at this point is particularly sightly, grand trees lining the way, and on the other hand the various zoological features of the park invite inspection.

The large aviary and pools are near at hand, and on the opposite



Scarcely a Speedway

side is being built the great lion house, which will be the finest structure for that purpose in the world.

No other vehicles of any nature whatsoever will be allowed on this course, giving entire play to the automobilists. The success of this enterprise will determine how far the Park Commissioners will extend the system. It is possible that with the improvements in progress on the west side of town a complete automobile course, beginning at

Central Park and running through the entire series of parks, will be established and maintained for the exclusive use of automobiles.

At the Bronx bridge entrance to the park there is proposed a grand entrance of such proportions and artistic beauty as shall be in keeping with that of the parks farther south. The position at the water's edge makes this possible, and the approach from Morris Parkway will be especially sightly. The surroundings lend themselves especially to horticultural development, and without doubt, within three years at most, this part of the city will be greatly beautified and rendered highly desirable as a place of residence.

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## Monarchs Who Motor

SOVEREIGNS and state officials who have become enthusiasts devoted to the sport of automobiling are numerous, in comparison with their numbers be it understood, for Kings, like mastadons, are nearly an extinct species, or likely to become so.

Foremost in the ranks comes the Pope who, in 1899, ordered and still uses, an electric auto-cab.

Next, the Shah of Persia, who, during the exposition of 1900, took lessons from Monsieur Serpollet of steam automobile fame. The Shah is now devoted to mechanical locomotion.

The King of Belgium travels constantly from Brussels to Paris in his automobile, and prefers this method of travelling to any other—it is expected he will arrive in Nice this Winter in a new 40 H. P. car.

The King of Italy, being a practical monarch, has gradually reduced his stables, replacing horses with motors. King Humbert kept 380 horses—his son has now but 150. The young King owns 10 motor vehicles, two of which are for his personal use, one for the Queen and the rest for his suite.

The *Comte de Turin* owns an automobile of well-known make, and the *Duc d'Aoste* has four.

The Czar owns a 30 H. P. Dietrich.

The Emperor of Germany frequently uses an automobile and is

said to attain so high a rate of speed in the streets of Berlin that the detectives detailed to watch over his Imperial person are unable to follow him.

Her Majesty Queen Wilhelmina of Holland must be included in the list—most gracious Queen that she is !

The King and Queen of England are becoming more and more devoted disciples to the art, and by their example are gaining numerous converts from among the ranks of aristocracy. It is currently reported in France that Edward VII recently narrowly escaped arrest for speeding in Hyde Park.

The Sultan of Anjouan has also essayed automobiling. While visiting France recently he declared himself as enchanted as an oriental may be, with the experiment, and the motor that conveyed him.

And still another Sultan, Abdul-Hamid, but by proxy this time:—Yachting has formerly been his favorite pastime, but wearying of this and hearing of the fascinations of motoring, he ordered a car and, the carriage being delivered, demanded a detailed description of its mechanism, to which he listened with all earnestness and then commanded his first chamberlain, Faik-bey, to ride in the carriage while he watched the manipulation of the affair. He has never consented to ride in it himself. And now the only sport in which he engages is revolver practice, and in this he has acquired such address that at 25 feet range he signs his name on the target. But in time it is expected that the Commander of the Faithful will succumb to the seductive charms of the motor vehicle.

And here the steps of automobile achievement in royal circles end.

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Automobilist—"Say, I want this mask changed. It doesn't cover my face enough."

Clerk—"But it's the regular thing."

"Can't help that. I find that the people I run over are apt to recognize me."—*Life*.



## Long Island Automobile Club Election

THE annual meeting of this organization was held at the club rooms, 1190 Fulton Street, Brooklyn, Wednesday evening, December 11. After the election of officers and the transaction of some routine business, an adjournment was made to the club house of the Union League Club, where the annual dinner was served.

The election resulted as follows : President, W. Wallace Grant ; Vice-President, Edward Pidgeon ; Treasurer, Frank G. Webb ; Secretary, Louis A. Hopkins ; Board of Governors—Nathaniel Robinson, M. D., Cornelius J. Field, Edward Pidgeon, Louis R. Adams, J. W. Newberry and A. R. Pardington ; Committee of Admissions—Charles Rockliff, A. M. White and H. R. Perkins.

Those present, besides the above-mentioned officers, were : W. Hoppins, Charles W. Spurr, Jr., R. E. Jarrige, F. S. Ray, J. Peck, Edward C. Seed, C. A. Hendrix, A. D. Bancker, F. T. Craven, H. L. Towle, S. E. Ranny, A. N. White, Charles Rockliff, F. B. Stephenson, B. E. Cornwall, John D. H. Schurtz, Alden L. McMurtry, George B. Adams, and the editor of this magazine.

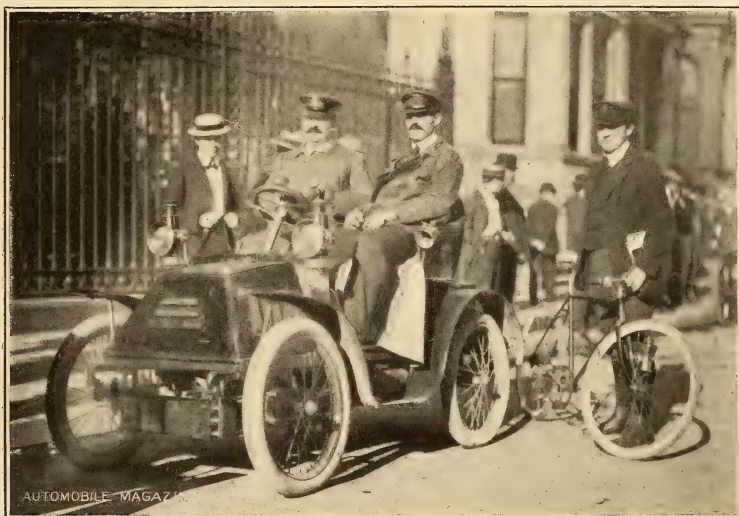
The menu was especially characteristic of an automobile dinner, the different courses being labelled in burlesque after some of the club's foremost members. The following gastronomic monstrosities were successively brought on in the usual order :

	Long Island Automobile flexible bi-valves	
Celery	Nuts	Olives
	Jump Spark Attachment	
	Bisque of Clams, à la Chauffeur	
Chicken		Halibut
	Pommes without tires	
	Grant Steer	
	Fresh Mushrooms, Gasoline Sauce	
	Greencoats	
Radiators Frappé		Firing Torch Centers
	Bob White, stuffed	
	De Dion Grasses	
	from Church Lane Farm	
Low-gearred Interchangeable Cream		Pardington Puffs
	Edams' Cheese	
	with Hopkins' Lactometers	
	Webb's Nerve Cure, demi tasse	

Mr. Newberry acted as toast master and his being familiar with the various speakers enabled him to introduce them appropriately in his characteristic way. Mr. Grant spoke of his acceptance of the club presidency, and gave the retiring officer unbounded credit for the good work he had done for the organization during the past year. Mr. Adams replied and emphasized the point that there were a number of other good workers in the club besides himself, who had done equal service in bringing the organization's name before the public so creditably during the first year of the club's life. Cornelius J. Field gave an account of the recent endurance test, and A. N. White spoke of the several experiences he was familiar with in running a gasoline machine. Mr. Pardington described in burlesque form a wondrous automobile, statistics having just been furnished him from the patent office. George B. Adams related a trip he made from New York to Boston on an automobile that was neither chain-driven nor by beveled gear. He made the astounding statement that he covered the distance in somewhat less than six hours, but followed this assertion quickly, by telling his surprised and skeptical looking listeners that anyone could take the same automobile, it leaving daily from the Grand Central Depot. The toast, "Technical Press in Automobiling," was responded to by the editor of this magazine.

The formal speaking being over a discussion followed concerning the proposed affiliation plan as sent out by the Automobile Club of America, the subject being started by Mr. Webb, who outlined what there was in the plan and spoke of the merits and demerits of it. He was followed by Mr. White, Mr. McMurtry, Mr. Schurtz, Mr. Newberry and Mr. Ray, there hardly being a dissenting idea—that the proposition of the parent club offered nothing that would be attractive to any independent automobile organization. It was shown that the A. C. of A. simply was asking all clubs to do homage and give complete allegiance to it. Clubs were asked to always recognize the rules of the A. C. of A. without being given any voice or representation in framing such rules. Mr. Pardington spoke of two very aggravating cases the L. I. A. C. had recently experienced in agreeing to abide by the rules of the A. C. of A. He said that after all arrangements had been made for holding the recent speed trials on Ocean Parkway, the A. C. of A. notified them that certain new rules had been framed, and that a change would have to be made from the L. I. A. C. announced conditions. This was done, and after having the amendment printed and sent around, then the A. C. of A. notified

the L. I. A. C. that they had made more changes in the rules, which would have to be observed. Mr. Pardington said that it gave his co-workers a great deal of trouble, and brought about a waste of time and money to amend the originally announced conditions twice, and that he did not see, since the L. I. A. C. was perfectly able to hold any kind of a run, tour, long or short speed trial or road race, why the club should agree to accept rules from an organization that



J. Peck in 8 H. P. De Dion

paid so little attention to details as to be the sponsors of racing rules which were defective.

The sentiment was almost entirely with Mr. Pardington, and the discussion ended by its being unanimously expressed that a National Association of American Automobilists should be formed and that the L. I. A. C. would gladly co-operate in organizing such a body, but that the plan as proposed by the A. C. of A. should not be accepted under any consideration. On the editorial page of this issue some points are mentioned regarding the forming of a national body to control the sport side of the automobile industry.



## Glasgow Trials Awards

By ALEXANDER F. SINCLAIR

THE judges' committee of the Automobile Club of Great Britain and Ireland has issued its report on the automobile trials held during the first week of September. It may be remembered that the club advertised the word "Reliability" as the motto of the trials, but the judges in arriving at a conclusion have not allowed that quality to wholly decide the question. Indeed, they have pretty well used up the alphabet in distinguishing between the various other factors introduced, and as no difficulty would have been experienced in still further ringing the changes on these terms it seems almost a pity that they did not make the whole journey and exhaust the twenty-six letters. The considerations which influenced the judges, in addition to the numerical results from reliability and hill climbing, were : (a) Price, (b) weight, (c) horse-power shown by performance, (d) persons carried or load, (e) price in proportion to seating capacity occupied, (f) price in proportion to power of motor, (g) power in proportion to seats occupied, (h) power in proportion to weight, (i) mechanical efficiency as shown by hill-climbing trials, (k) simplicity of transmission, (l) accessibility of mechanism, (m) quality and sufficiency of speed gear, (n) easiness of adjustment, (o) steering gear, (p) brakes and brake gear, (q) ignition arrangements and apparatus, (r) general design, mechanically ; (s) general design, appearance ; (t) workmanship, especially of machinery ; (u) condition of cars at end of trial, (v) breakages and defects not previously mentioned. How far these several factors were allowed to operate in favor of or against the various cars is "wrapt in the womb of mystery," for they have not been made public, which is unfortunate. In a preliminary note to the awards the judges confess their inability to place petrol and steam-driven cars on a fair basis for comparison, and with all the considerations and conditions specified above humming in their heads, it is little wonder. The quandary in which these able men found themselves, however, only sufficed to demonstrate their stupendous resources. *They award gold medals to both types of motors !* Magnificently simple ! Reminds one of the foot race between two runners for which both got first prize—one, because he ran faster, the other, because he had better style.

The awards are as follows :

SECTION I (Cars entered by manufacturers or their agents).

(Steam motors only competed in Class A.)

Class A—Price not exceeding £250.

Gold Medal—Petrol, No. 9 ; 5 H. P. Wolseley.

Gold Medal—Steam, No. 20 ; Locomobile.

Silver Medal—Petrol, No. 16 ; 7 H. P. New Orleans.

Class B—Price not exceeding £350.

Gold Medal—Petrol, No. 2 ; 6 H. P. Motor Manufacturing Company's light carriage.

No silver medal.

Class C—Price not exceeding £500.

Gold Medal—No. 10 ; 10 H. P. Wolseley.

Silver Medal—No. 3 ; Motor Manufacturing Company's six-seated car.

Class D—Price exceeding £500.

Gold Medal—No. 14 ; 16 H. P. Milnes C. P. C.

Silver Medal—No. 13 ; 10 H. P. Mors.

Class F—Delivery vans.

Gold Medal—No. 4 ; Motor Manufacturing Company's 6 H. P. one-ton van.

SECTION II was for privately owned vehicles and in their case no awards were made.

SECTION III (Parts).

Class B—Pneumatic tires.

Diploma of Performance—P 1, Dunlop tires.

Class G—Ignition apparatus.

Gold Medal—P 4, Simms-Bosch magneto-electric ignition, and interrupter timing gear.

Some quite interesting questions might be propounded as to these awards, and, in the absence of the marks secured by the cars for the "alphabet," it is justifiable, even though one does not cavil at the decisions, to set one or two of them down. In Class A the Wolseley vehicle, which was given the gold medal, had three deductions for mechanical defects, and failed to do more than surmount Whistlefield without any passenger ; while the silver medalist also lost marks for reliability, and, although on the first two hills it showed much above the average, yet it only succeeded in taking its driver over Whistlefield. When these performances are compared with those of the Argyll and

De Dion voitures, one is constrained to exclaim, "great is the virtue of the alphabet!" The Argyll lost no marks for reliability, and took good marks for hill-climbing, surmounting Whistlefield with four passengers, while the De Dion only lost two marks for reliability, and also did better than the gold medalist in hill-climbing. One might also inquire why no silver medal was awarded in Class B. In this class the Arrol-Johnston dog-cart made as good a record as the car awarded the gold medal—both for reliability and hill-climbing, if all three hills be included in the test—yet it was not deemed worthy of second place. Why? Was its shape, which is that of former days, against it, or did its weight—nearly 2,600 pounds—prove the barrier to success? It must be admitted that a vehicle to carry four passengers, weighing say, 680 pounds as a total load, but which has a dead weight of 2,600 pounds is somewhat too heavy.

Of the eleven prize winners four were of foreign and seven of British manufacture. The proportion of foreign to British motors entered by manufacturers for the coveted medals, was sixteen to twenty-seven, so that the British makers have more than held their own. The foreign built medal winners were the Locomobile (America), and the De Dion voiturette (France), in Class A; the Milnes (Germany), and the Mors (France) in Class D.

There has been considerable acrimonious criticism in the technical press of this country about the awards. It is observable, however, that none of the aggrieved individuals has a word to say against the impartiality of the judges, although their capabilities and competence have been freely called in question. The position is a difficult one. The best judges without doubt are the men who have themselves built cars, but the best of them are of course engaged in the industry, and are therefore out of the question. Next best are the men who acted on this occasion—men whose impartiality is above suspicion, although the extent of their knowledge may leave something to be desired.

In the December issue of this magazine a previous article on the Glasgow trials states that the 9 H. P. Napier, No. 23, Class D, had some difficulty in surmounting Whistlefield Hill. Mr. Edge has since explained that the stoppage was caused by an obstacle in front, and not by want of power in the car, this version having been accepted by the A. C. G. B. I.



## America's Fastest Steam Carriage

THE accompanying illustration shows the fastest steam carriage in this country, manned by its originator, who sent this vehicle at the recent Long Island trials, a mile in 1 minute 15 seconds. Mr. Davis says these figures do not represent the ability of the



Samuel T. Davis Jr. in his Locomobile racer, 1 mile 1 minute 15 seconds

machine over such a short distance, and that several seconds under a minute is not beyond its capabilities. This carriage was planned and built very hastily, and put together in the Locomobile factory at Bridgeport in about ten days. It is Mr. Davis's personal property.

he being responsible for the idea of building a steam car which could give creditable representation in actual speed against those propelled by gasoline.

The wheel base is 5 feet 9 inches, and the weight loaded, but without passenger, is 1,200 pounds. The boiler is 20 inches in diameter and 16 inches high, it being of the regular Locomobile pattern. The steam pressure, when the vehicle made its record, was 250 pounds, and it readily maintained it during the many trials Mr. Davis made up and down the course that day. The engine has two cylinders, three inches in diameter, and four inches stroke, with cranks at right angles. The gear from crank axle to driving axle is 1 to 1. The range in mileage without replenishing, is about 30 miles, there being capacity for 40 gallons of water and 8 gallons of gasoline.

The occasion of Long Island trials was only the second time its owner had tried the vehicle, and its parts still show signs of not being properly worn to each other. These facts make it likely that the carriage will fully equal Mr. Davis's anticipations when he again tests it purposely to accomplish some speed.

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## Henry Ford's New Automobile Company

**H**ENRY Ford's design of the 26 H. P. gasoline automobile racer was shown in our November issue. He has another under way, which he says will outclass the first one he manufactured at every point in the game. Since the races at the Grosse Pointe track he has changed the design of the machine entirely, and now has a model which he thinks will perfect all the defects in the old machine. The Henry Ford Company was recently incorporated, and Mr. Ford will be mechanical engineer. The new company will begin to manufacture machines at once in the plant of the old Detroit Automobile Company, which went out of existence a year ago. The plant is located at 1,343 Cass Avenue.

William H. Murphy, the treasurer, is responsible for the new company—having furnished the funds for Mr. Ford to continue his experiments.

The new machines will have greater power with less weight. The capital stock of the company has been fixed at \$60,000.

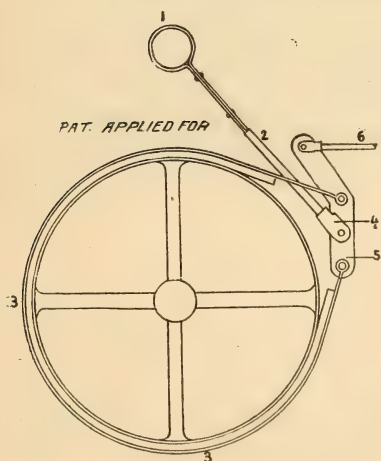
## Proportion of Automobile Club of America Automobile Owners to Members

AT a gathering of members at the Automobile Club of America rooms Tuesday evening, December 10, President Albert R. Shattuck just before introducing the lecturer on that occasion, Hart O. Berg, said that he had gathered a few statistics to refute a statement that had been made and found its way into print, viz.: that only 25 per cent. of club-members owned automobiles. Mr. Shattuck's figures were as follows: Total membership, 351; number of automobile owners, 254; number of automobiles owned by members, 358; number of automobiles owned and ordered by members, 431.

This shows that over 66 per cent. of the members possess machines and that there are owned in the club more automobiles than there are members, some of the latter being credited with three, four and even five. The fact that over 66 per cent. of the members are owners was the part that surprised Mr. Shattuck's listeners, most members better informed than the average on the subject thinking the proportion would be not over 50 per cent.

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## Stewart's Double-Action Brake

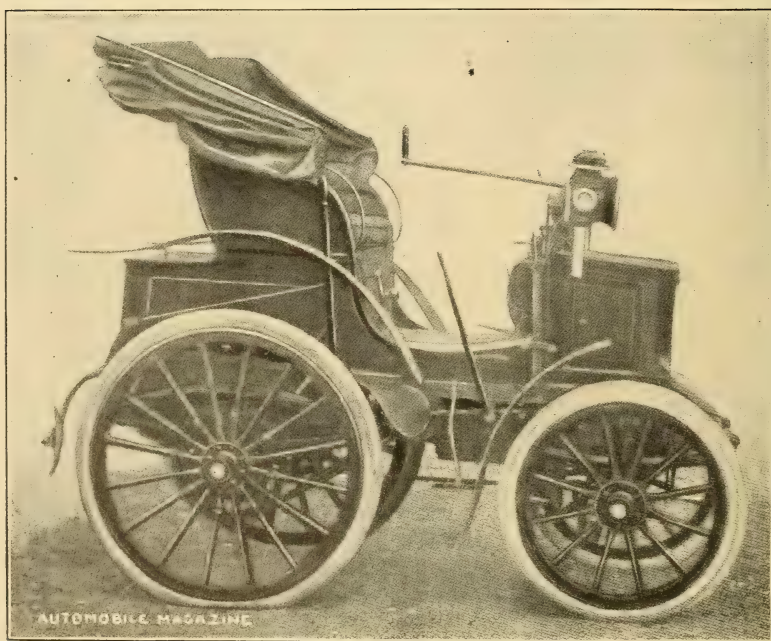


The brake band is held by strap 2 on axle 1, connecting at 4 and forming a pivot or fulcrum for the lever and its connections 5 and 6. The brake band 3 encircles the differential or other braking pulley and holds positively in either direction. This is a feature which should commend it to any automobilist who wishes to prevent accidents due to brakes that will not hold every time.



## The Motor Phœnix

**L**IKE the fabled Phœnix, from the old there is evolved the new even in so young a trade as the automobile industry, and he who is not the possessor of a 1902 model will soon feel himself a back number in motor circles. But the fertile mind of the French manufacturer rises to the emergency of the edicts of Fashion, even in the case where the finances of the autoist are unequal to the caprices of style :—so an enterprising firm remodels vehicles to suit the most



Old Panhard

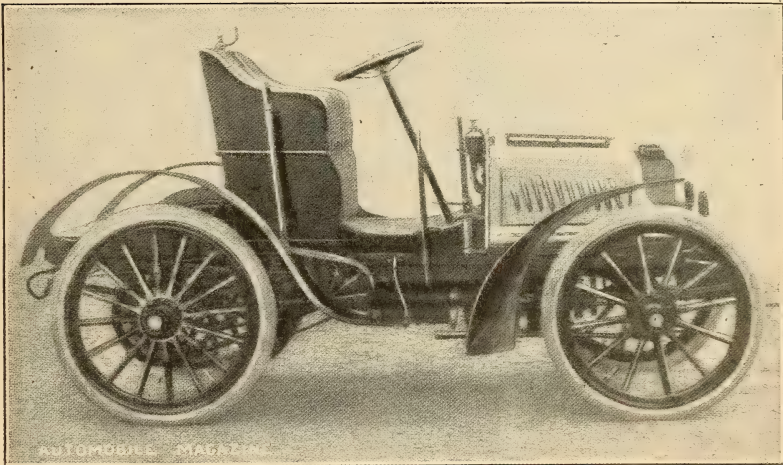
fastidious, retaining the motor and other vital parts which may have proved entirely satisfactory through weal and woe, but giving to the exterior the lines, proportions and attachments required by the latest designs.

Compared with the first expense of an automobile these modifications are inexpensive and permit many a hesitating purchaser to indulge

in the sport, feeling that they will not be obliged to renew the sum total within two years to avoid becoming antiquated.

These illustrations, as given in *La Locomotion*, so clearly voice the transformatron scene, from an old Panhard to a new, that very little description is necessary. Besides the changes of proportion, height, etc., the weight has been considerably diminished while the rate of speed has been increased.

This should stimulate the expectant investor in an automobile to renewed care in his first choice of a machine, since, like a silk hat, it may but need to be reblocked the following years.



Remodelled Panhard

But remodelling automobiles is a feature that by no means is monopolized by French firms, for, in America, some of the well-known manufacturers are proceeding on similar lines. The Haynes-Apperson Company, of Kokomo, Ill., is remodelling the celebrated surrey owned by Henry S. Chapin, which was driven to victory last spring in the L. I. A. C. 100-mile endurance test and won the blue ribbon. One of the accompanying illustrations shows the original form ; the other, with its four occupants, represents the machine as it will be remodelled.

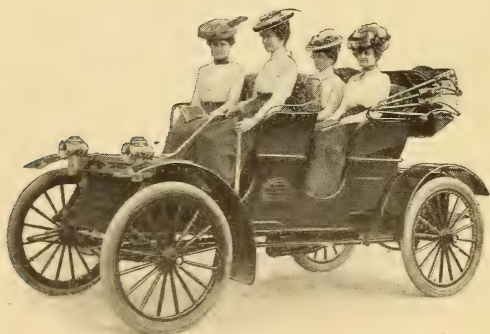
The wheel-base has been lengthened a foot, and is now 8 feet. An old-style transmission gear which was not very reliable ate up considerable power, and has been removed in favor of a direct chain from countershaft to axle, permitting the change of gear almost

instantly, so the machine can be used in a hilly country as well as on level roads without difficulty from lack of power. The body has been dropped close to the axle, partly to facilitate the use of the chain



Henry S. Chapin's old surrey

and partly to give greater stability ; it has also been lengthened, giving baggage room and space for radiators under the front hood,



Mr. Chapin's remodelled surrey

the radiators and pump taking the place of the large tanks formerly placed on the sides of the body. More space has been provided between seats, and minor details in the arrangement of batteries, coils, etc., have been changed to afford more room, of which there is now plenty—something lacking in most vehicles. The chain



drive necessitates reversing the direction of the engine, which is done by giving a half turn to the reducing mechanism controlling the exhaust cams and sparker rods. Improved vaporizers have been fitted of the same type, the changes of the whole making a much handsomer and easier riding vehicle and giving an increased efficiency of 15 per cent. to the available power from the same engine.

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## Another Convert

**A**N example of the trend of the times was well shown recently by an answer which the Brooklyn Automobile Company received from an advertisement regarding the sale of an automobile. The company advertised as follows: "For Sale—Locomobile in perfect shape, an excellent steamer, a bargain at \$350.00. Address H. R. P., 477 Halsey Street, Brooklyn."

One answer received, read: "Would you entertain an exchange of a very nice team of horses, harness, and Brewster trap, for your Locomobile? I have such to offer, and if you care to make the exchange kindly write me."

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## Book Reviews

One of the most elaborately devised publications of the season is that issued by J. F. Taylor & Co., under the title of "The Book of Sport," the edition being limited. It contains over three hundred



illustrations and twenty-three articles by separate contributors, supposedly authorities in the special line of sport which they treat. The whole is edited by William Patten and forms a very attractive volume from a view-point of its illustrations and general appearance. It would seem, however, that its generalized title is somewhat inappropriate, as only the sports engaged in by the wealthy, for whom the book is, evidently, chiefly designed, are noted; and, speaking critically, it might be affirmed, as a whole, that there is a lack of practical sug-

gestion or serious consideration in the text offered, which seems to consist mainly of jocular personalities from the writers, leaving the reader with a fund of reminiscences, rather than any applicable knowledge of the sport in hand.



*"Stumpy."*

Albert C. Bostwick's article on "Automobiles and Automobiling" is distinctly good reading and must interest the automobile public, though he, too, handles his subject lightly.

Mr. Bostwick is not the only celebrated automobilist who has written a treatise for this fine work, Colonel John Jacob Astor, Foxhall P. Keene and Oliver H. P. Belmont having contributed articles on "The Automobile and its Relation to Good Roads," "Polo in England," and "Coaching," respectively, all of which make interesting reading. The book cannot fail to be an acquisition to any library, especially if it be a private one in the city or country, and it is

safe to say it will reach the hands of all who are willing to invest in a handsome book at a handsome price.

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How to Build a Three-Horse-power Launch Engine, by E. W. Roberts, M. E. Published by the Gas Engine Publishing Company, Cincinnati, O. Price, \$2.50.

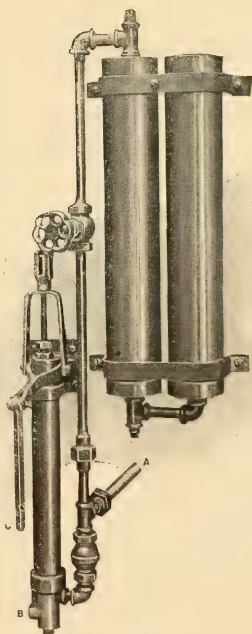
Mr. Roberts' book will help amateurs obtain the knowledge, by experimenting, that he has thoroughly within his own grasp. His treatise contains working drawings, accompanied by explanations, that demonstrate every little detail of an engine, so that the reader cannot help understanding and with a little study and practical experience will be able to build the simple engine that is set forth in such fine detail therein. The book is  $12\frac{1}{2} \times 10$  inches, therefore allowing plenty of space for plain, legible plates. Mr. Roberts also wrote "The Gas Engine Hand-Book," and the engine which is designed in this other book is taken somewhat from the formulas set forth in the aforementioned. The price of the book is \$2.50, and full-sized blue-prints can be obtained at an additional cost of \$4, but separate they are \$4.50.

## Phelps Pumping System for Automobiles

**T**HIS invention introduces several new features never before used in similar appliances. The pump proper is incased within a barrel. The pump piston is a simple plug without stuffing box, and no attempt is made to make it perfectly tight. The barrel inclosing the pump is placed alongside the gasoline tank and is connected therewith by an unobstructed passage, so that the gasoline stands in the barrel at the same level as in the tank itself. Any leak by the piston is retained within the barrel and used over again without waste.

The pump itself is peculiar in that the engine simply raises the piston and a spring depresses it. It is therefore plain that when the pressure in the receiver balances the pressure of the spring on the piston, no more gasoline will be pumped until a portion of it has been used and the pressure in the receiver reduced. As the pump piston is large enough to pump many times the quantity required by the burner, it follows that the pump is out of action most of the time, the piston remaining in an elevated position.

Still another new feature is introduced in the receiver, where a small quantity of gasoline is retained under pressure, and from which it is fed to the burner. The pumps are shipped complete and may be readily attached to any steam carriage by the local repair man, or at any machine shop. (Manufactured by the Boston Automobile Exchange, 122-124 Massachusetts Avenue, Boston, Mass.)



Phelps pump



## L'Envoi

(*A Message From The Old Year To The New.*)

When Earth's last Equine has vanished, and poor folk in motors  
may ride ;  
When the surface-car is abolished, and the slaves of the lash have  
died,  
May they rest ! for, faith, they need to lie down for a cycle or so ;—  
And the Master,—their work accomplished,—shall say : “ Well  
done, ye can go.”

And they that were starved shall eat clover ; and they  
That were docked shall be there :  
They shall flourish a caudal fixture, where once  
There was no more hair ;  
They shall draw real saints and angels,  
(Founders of S. P. C. A.)  
For joy of their strength resurrected, mid pastures  
Of new-mown hay.

There'll be no more *beasts* of burden,—their masters  
The *beasts*, save in name :  
They'll no more be used for traffic, and never  
Be spavined or lame,  
For every one of Earth's travellers, each in  
His favorite car,  
Shall be borne in a “ *horseless carriage* ”—and pray God  
That time be not far !

*The ASSOCIATE EDITOR hopes the good cause here championed  
will frame an acceptable excuse for parodying Kipling's famous  
“ Envoi,” and prove a prophecy for the coming years.*

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The Index for Volume III (1901) will be ready January 15.  
Anyone wishing a copy can procure it on request.

## Automobile Club Directory

*Under this heading we shall keep a record of the motor vehicle clubs both of this and other countries, and we hope to have the co-operation of club officers in making it accurate and complete.*

*Corresponding clubs of the Automobile Club of America are designated thus \*.*

Automobile Club of America, S. M. Butler, Secretary, 753 Fifth Ave., New York; representative on International Racing Board, Clarence Gray Dinsmore; Substitute, John H. Flagler.

Automobile Club of Bridgeport, Secretary, Frank W. Bolande, 208 Barnum Avenue, Bridgeport, Conn.

Automobile Club of California, Secretary, R. R. P'Hommedieu, 415 Montgomery St., San Francisco.

Automobile Club of Cincinnati, O., Secretary, Rutherford H. Cox, 30 West Seventh Street, Cincinnati.

\*Automobile Club of Columbus, O., C. M. Chittenden, Secretary, Broad Street.

Automobile Club of Maryland, Secretary, C. W. Stork, care Hotel Altamont, Eutaw Place.

Automobile Club of New England, Secretary, Geo. E. McQuesten, Brookline, Mass.

Automobile Club of New Jersey, Secretary, W. J. Stewart, Montclair, N. J.

\*Automobile Club of Rochester, Frederick Sager, Secretary, 66 East Avenue, Rochester, N. Y.

Automobile Club of Syracuse, Syracuse, N. Y.; Secretary Frederick H. Elliott, 515 S. A. & K. Building, Syracuse.

\*Buffalo Automobile Club, Secretary, Ellicott Evans, The Lenox, Buffalo, N. Y.

Chicago Automobile Club, Secretary, H. M. Brinkerhoff, Monadnock Block, Chicago.

\*Cleveland Automobile Club, L. H. Rogers, 357 Amesbury Avenue, Secretary, Cleveland, O.

Columbia College Automobile Club,

Lewis Iselin, Secretary, Columbia College, New York, N. Y.

Indiana Automobile Club, Indianapolis, Ind. Secretary, August Kabich.

Long Island Automobile Club, Secretary, L. A. Hopkins, 1190 Fulton Street, Brooklyn.

Massachusetts Automobile Club, President, J. Ransome Bridge; Treasurer, Conrad J. Rueter; Secretary, L. E. Knott, 16 Ashburton Place, Boston, Mass.

\*North Jersey Automobile Club, E. T. Bell, Jr., Secretary, Paterson, N. J.

Pennsylvania Automobile Club, Secretary, Henry J. Johnson, 138 No. Broad Street, Philadelphia.

\*Philadelphia Automobile Club, Frank C. Lewin, Secretary, 250 No. Broad Street, Philadelphia, Pa.

Princeton University Automobile Club, Princeton, N. J. President, P. Adamson; Secretary, Charles H. Dugro.

Rhode Island Automobile Club, Secretary, Frederick C. Fletcher, P. O. Box 1314, Providence, R. I.

San Francisco Automobile Club, B. L. Ryder, Secretary, San Francisco, Cal.

Worcester Automobile Club, Worcester, Mass., President, J. W. Bigelow; Vice-President, Edwin Brown; Marshal, W. J. H. Nourse; Treasurer, B. A. Robinson; Secretary, H. E. Shiland.

### AUSTRIA.

Budapest—Magyar Automobil Club, 31 Museum Korul.

Innesbruck—Tiroles Automobil Club, Rudolph-Strasse 3.

Prague—Prager Automobil Club.

### BELGIUM.

Antwerp—Automobile Club Anversois, 34 r. Longue de l'Hopital; Président, Baron de Bieberstein.

\*Brussels—Automobile Club de Belgique, 14 Pl. Royale; Moto-Club de Belgique, 152 Boul. du Nord; Touring Club de Belgique, 11 r. des Vauniers.

Charleroi—Automobile Club de Charleroi, 18 Quai de Brabant, Charleroi.

Ghent—Automobile Club de Flandres, 7 Place d'Armes, Gand.

Liege—Automobile Club, Liegeois, 2 r. Hamal.

#### FRANCE.

Amiens—Automobile Club de Picardie, 36 r. de La Hotoie.

Avignon—Automobile Club d'Avignon.

Bordeaux—L'Automobile Bordelais.

Dijon—Automobile Club, Bourguignons Café Americaine.

Lyon—Bicycle et Automobile Club de Lyon; Motor Club de Lyon, 3 pl. de la Bouise.

Marseilles—Automobile Club de Marseilles, 61 r. St. Fereol.

Nance—Automobile Club, Lorrain, Thiers pl.

Nice—Automobile Vélo, Club de Nice, 16 r. Chauvain.

\*Paris—Automobile Club of France, 6 pl. de la Concorde; Motr-Club de France; Touring Club de France, 5 r. Coq-Héron.

Pau—Automobile Club, Bearnais Ave. de la Pau, President, M. W. K. Thorn.

Périgueux—Vélocé Club, Périgourdin, Hôtel de Commerce.

Toulouse—Automobile Club, Toulousein Café Riche, pl. St. Etienne Société des Chauffeurs du Midi, 25 r. Roquelaine. President, M. Gay.

#### GERMANY.

Aachen (Aix la Chapelle)—Westdeutscher Automobile Club, Hotel Grand Monarque.

Berlin—Mitteleuropaischer Motor Wagen Verein, I. Universitatstrasse, Herr A. Klose.

\*Deutscher Automobil Club, Luisenstrasse, 43-44. President, S. D. Herzog, Victor von Ratilin.

Dresden—Radfahrer-und Automobilisten Vereinigung; Dresdener Touren Club.

Eisenach—Mitteldeutscher Automobil Club; Motorfahrer Club, Eisenach.

Frankfort am Main—Frankfurter Automobil Club, Restaurant Kaiserhof.

Munich—Bayer. Automobil Club, 33 Findling Strasse.

Stettin—Erster Stettiner Bicycle und Automobil Club.

Strassburg—Strassburger Automobil Club.

Stuttgart—Suddeutscher Automobil Club; Wurtembergischer Motor Wagen Verein.

#### GREAT BRITAIN.

Birmingham—Motor and Cycle Trades Club, Corporation street.

Edinburgh—Scottish Automobile Club.

Liverpool—Liverpool Self-propelled Traffic Association, Colquitt street. Secretary, E. Shrapnell Smith.

\*London—Automobile Club of Great Britain and Ireland, 4 Whitehall Court, S. W. Hon. Secretary, C. Harrington Moore.

Nottingham Automobile Club, Secretary, A. R. Atkey, Nottingham, England.

#### HOLLAND.

Nimègue—Nederlandsche Automobil Club. President, M. J.-P. Baekx.

#### ITALY.

Milan—Club Automobilisti Italiani, 14, Villa Vivaio.

\*Turin—Automobile Club d'Italie Via Vittorio Amedeo II, 26.

#### RUSSIA.

Moscow—Moskauer Automobile Club, Petrowka, Hauschnow.

St. Petersburg—Automobile Club de Russe, President, M. Delorme.

#### SPAIN.

Madrid—Automobile Club de Madrid.

#### SWITZERLAND.

\*Geneva—Automobile Club de Suisse, Rue de Hesse, 2, Geneva.



# THE AUTOMOBILE MAGAZINE

*A Live Journal for all interested in Motor Vehicles*

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## Affiliation Without Representation

ON account of there seeming to be a tendency to not take kindly to the plan of affiliation sent out by the Automobile Club of America to other clubs, the AUTOMOBILE MAGAZINE lays before its readers the combined ideas of some of its correspondents. The parent club has submitted to the various other automobile organizations the following plan :

1. To have all contests and races under the rules of the Automobile Club of America.
2. To agree to report for general disqualification any person found guilty of unsportsmanlike conduct, so that such person should not be allowed to compete elsewhere.
3. To co-operate in efforts to obtain liberal laws for the users of automobiles on the highways.

4. To seek protection for the legal rights of users of automobiles.
5. For improvement of highways.
6. Toward furthering the use of automobiles.
7. Toward the exchange of ideas for the betterment of the sport.

Whenever a proposition is made to one organization to become affiliated with some other, the question is generally asked, "What is gained by it?" The automobile clubs of Long Island, Rochester, Chicago or California, without doubt will ask what they gain by becoming affiliated with the Automobile Club of America, for the above clauses contain only two specific propositions. The first is to have all races run under the rules of the A. C. of A.; the second, to agree to report to the A. C. of A. for disqualification any person found guilty of unsportsmanlike conduct.

The other five clauses are merely general statements which clubs should follow naturally and without having any so-called formal affiliation.

It is difficult to see just where affiliation will be attractive to clubs other than the parent organization, for nothing is offered them. No representation in making rules for racing will be allowed them, for one of the distinct propositions is that contests shall be held under rules which are framed and will be altered in the future only by the A. C. of A.

The glittering generalities of clauses 3, 4, 5, 6 and 7 sound well, but when one really examines them it will be seen that no other condition is proposed for the future apart from the one that is now in force. All clubs are now co-operating in efforts to obtain liberal laws and to seek protection for the legal rights of automobile users and for the improvement of highways. All clubs are now endeavoring to further the use of automobiles and the exchange of ideas for the betterment of the sport. These are conditions that have existed in a perfectly natural way from the moment any club was organized, for its members would individually and collectively support any plan which would be for the good of all. Therefore, the major portion of the seven clauses are superfluous and need no formal action to carry out. The only propositions specifically put forward so that an answer "yes or no" can be given are the two first, and it is yet to be seen whether various clubs in this country will agree to them without getting in return something that gives them a voice in the rules which they bind themselves to abide by.

There is no question that some kind of affiliation or amalgama-

tion will be necessary for the control of racing, just as has been the case in every sport where there was sufficient general interest to cause the formation of clubs for fostering it. It has been so in yachting, rowing, polo, lawn tennis, golf, athletics, etc. Affiliation for the control of these various sports has always been accomplished by the various individual clubs sending delegates to a national convention and forming a national body, this organization taking full charge and electing its own officers and executive committee. This has always happened where there were a lot of clubs, all self-sustaining and anxious to co-operate in a plan for the proper regulating of all. It may be that automobiling has not advanced sufficiently as a sport to develop enough interest in clubs apart from the A. C. of A. to really desire co-operation. In lawn tennis in this country the game was played some years before the various clubs in the country co-operated, sent delegates and formed the National Association of Lawn Tennis Players. Rowing was competed in for some years before the National Association of Amateur Oarsmen of America was formed, this organization being composed of delegates from many clubs. In athletics, races were held under the rules of the New York Athletic Club all over this country and Canada for some years, simply because the many smaller clubs were not important enough to cause them to take any interest in the legislation of the subject. They were content to let the parent organization make all laws because it was the first to be organized and already completely occupied the field of legislation; but after half a dozen years other clubs had become large enough to occasionally question the authority of the New York Athletic Club, and this feeling became so strong and general that in 1879 the National Association of Amateur Athletes of America was formed, and for the last 23 years that and its successor, the A. A. U., have regulated the sport.

These facts are mentioned to show what changes evolution has brought on other sports besides automobiling. The latter is so new, it being only about two years old, that evolution has not had time to show its effects, but it unquestionably will, and it is perfectly safe to say that if there is to be much automobile racing in this country a body will be formed being made up of representatives from various clubs of the country or wherever the sport has foothold enough to justify representation.

This prediction is made with a full understanding of how much good the Automobile Club of America has done since its organization



two years ago. This club has set the lead for others to follow, but the probabilities are, the question of automobile control will outgrow a local organization such as the parent club is, and when that happens other organizations will clamor for a basis of affiliation where they will have some representation. The plan as outlined by the parent club means nothing, it merely asking other clubs to still consider it the parent in law as well as in sentiment.

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## The Automobile Industry

THE automobile industry finds itself in practically the same condition as does every other large business at its beginning, with such exceptions as are due to the modern methods of capital in contrast with those of former days. As with the sewing machine and the bicycle, factories spring up all over the country ; carriages are built in greater or less numbers and are heard of no more. Not that there is necessarily anything wrong with the machine; but there are business conditions which are difficult to master with small capital.

It often happens that an excellent mechanic builds a carriage with many improvements—possibly a superior machine in every respect and one that from all appearances should be a ready seller. But as a rule the mechanic is not a business man ; in fact, this is a combination too rarely met, and despite the merit of the machine it does not find sale enough to keep afloat. There are many cases of this kind in every business and the automobile industry is no exception.

On the other hand there are times when the financial end is well taken care of and the selling department is always ahead of the factory, but still dividends are not forthcoming, owing to a lack of mechanical ability in charge of the manufacturing end. There is a wide difference between “building an automobile” and manufacturing one on a commercial basis for profitable selling.

The selling itself is a branch of the business that requires careful management and too many seem to overlook the cost of this department. The business may be divided into two departments, the manufacturing and the selling, unless we add a third in [the shape of

general management of the whole. When these are in harmony and well managed, dividends may be confidently expected.

Owing to the wonderful growth of automobiling, people expect to find the business well established, forgetting that it is scarcely three years since motor carriages became a reality on our roads, if we except the carriages built by a few sturdy pioneers before that time. But the conditions are being adjusted and another three years will see them worked down to a business basis on manufacturing lines, and investors will have realized their expectations. This desirable outcome can be hastened by careful management of concerns already well established. Many investors are afraid of new industries, the wild cat companies which have existed almost entirely on paper with a capital stock that would float a battle-ship not having induced confidence. But all this will give way to a healthy growing business and unless we read the signs through distorted glasses, the tide has already set in this direction. Judging by the past all will not survive, and it behooves every one interested in the business to pay close attention to both mechanical and financial ends.

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## A New French Weekly

OUR most excellent French confreres, Messrs. Baudry de Saunier and Gaston Sencier, are editing an excellent weekly, published by the Dunod book firm, 49 Quai des Grands-Augustins. In addition to its editors, whose ability is so well recognized, the collaborators whose names appear in the pages of *La Locomotion* give sufficient evidence that the publication will establish a worthy footing among its contemporaries and gain the success it merits from its typographical excellence as well as its literary standards. There is no lack of fine illustrations and good, technical matter in connection with all the topics of general interest to the automobile fraternity. We have had previous occasion to mention M. Sencier's valuable scientific treatise on electric motors, in collaboration with M. A. Delasalle, a noted engineer, but will again, in connection with this new journal, call attention to the fact that there is no better or more advanced authority on electric vehicles than this well illustrated book.



*(We desire those interested in both the manufacture and operation of Automobiles to send in for use, in this department, whatever they think may be of interest to us or our readers.—EDITORS.)*

## Why is Fournier Faster than Keene?

IT has been a question under considerable debate among some of us here, as to the most probable reason for the superiority of one contestant over another in a race, judged by the final results, when each contestant possesses an absolutely similar machine. Taking Fournier and Keene for examples of this case, for instance, why should Fournier have gone faster in the L. I. A. C. speed trials, even though the difference was only  $2\frac{1}{2}$  seconds?

If you will open your columns to replies on this subject, we shall deem it a favor.

CHICAGO, ILL.

W. G. CASE.

The question proposed by our correspondent is a rather indefinable one and begets reflections in the realm of psychological possibilities, rather than a statement of technical facts: So many reasons, involving individual characteristics, enter into the solution of a problem in human factors! And given two machines "absolutely similar"—the explanation resolves itself into a difference of guiding, manipulating, etc., between the two men, which again, since acts are governed by thoughts, brings the question to the basis of a difference of temperament and mentality, with the added feature that one or the other may have had more, or less, experience. Quick thought produces ready action, when an unexpected difficulty presents itself, and in no case is this more likely to occur than in racing, where coolness, deliberation, ready judgment, a lightning decision and extreme daring are all necessary, to meet the emergencies of such occasions. Yet who shall say, in such close records, that the most trivial obstacle may



not have occasioned the difference of record? And who can ever decide that two machines are exactly "similar?" Every piano manufacturer will say that it is impossible to produce two pianos alike and this is true of all complex mechanisms. Therein reside the individual contrasts of two machines, which leads us to say that they possess almost human characteristics. The "cussedness of inanimate objects" is a well recognized fact.

Messrs. Fournier and Keene both possess the requisites for skilled contests to such a marked degree that the question of superiority, in either case, is a close one.

Perhaps their last test can best be summed up by saying that Fournier's car was just in a little better mechanical shape, and the driver had greater ability in getting all there was out of a car in the matter of speed.

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## Amateurs and Professionals

THE recent Long Island Speed Trials recall to me an article that appeared in the AUTOMOBILE MAGAZINE last July concerning amateur and professional automobilists. It read: "Mr. Samuel T. Davis, Jr., Treasurer of the Locomobile Company, runs his fast racing machine solely for the amusement and sociability he finds on club runs, and in no sense is he a professional automobilist in the way that term is generally applied. Yet he is prominent in the management of a large corporation which makes and sells automobiles, and therefore should the line be strictly drawn he might be classed as a professional."

Continuing the article said in another part: "Mr. Davis's case is difficult to define for his connection with the manufacturing side of autoing might in theory make him a professional, but the informal way he engages in the practical running of an automobile will seldom cause him to be classed as such."

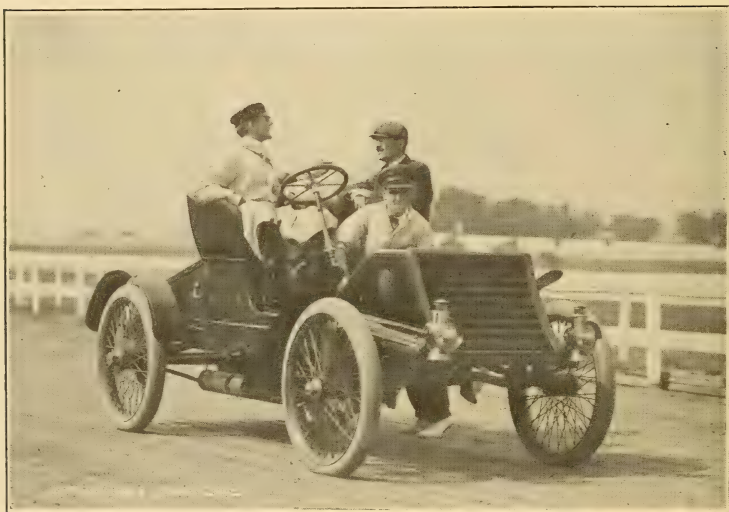
What I would like to know is whether there is any line defining the difference between an amateur and a professional autoist. At the Long Island Automobile Club Speed Trials Mr. Davis was competing with such men as Fournier, Charley, Bostwick, and others of that class, and if he is not a professional, what is he?

NEW YORK.

CHARLES A. ADDISON.

Our correspondent seems to be well acquainted with names but is mixed as to classes. His reference to Mr. Davis competing with such men as Fournier, Charley, Bostwick, etc., would undoubtedly make Mr. Bostwick smile, he being put in the same class as two celebrated professionals who derive their livelihood from running, racing, and handling motor cars. Fournier needs no introduction. Charley has been running or keeping Harry Payne Whitney's Mercedes car. Mr. Bostwick has not yet to our knowledge accepted a position to drive a car in touring or racing.

This is a subject that confuses many people whose experience is



A characteristic attitude of Albert C. Bostwick, Bernard M. Baruch having said something amusing

limited only to other sports besides automobiling, and just how it will eventually be defined is impossible to say at present, owing to the newness of automobiling as a sport. There is no precedent in France to go by, supposed-to-be amateurs and so-called professionals there mixing up in racing in a way that leaves no doubt concerning the idea that there is no need yet of drawing a line.

Mr. Davis is really no more of a professional automobilist than any one else who does not make a practice of driving a car for pay. He, as head of one of the largest automobile manufacturing corporations, is allied with the general subject, which of course includes racing

as well as manufacturing, but his true standing as an amateur is just as strong as should be the head of a billiard table manufacturing concern who is closely allied with the subject but who does not handle the cue, giving exhibitions of billiards, etc., for pay—the way, for instance, that Messrs. Schaefer and Slosson do. Mr. Davis sent his steam racer over the Long Island course at the rate of 1 mile in 1 minute 15 seconds, not with the idea of adding any direct monetary value to the services he renders his company, but more to show that a steam carriage could be built in this country which could go very fast. He acted from his own volition and probably never will convert into cash the extra prestige he gained for himself on that occasion. Fournier, on the other hand, without doubt counted on a monetary value to the prestige he himself won on that day. That is simply the difference between a professional and an amateur.

Unless it is considered that a professional autoist is one who is connected with an automobile manufacturing or selling concern in any way such men as the following are absolute amateurs: Mr. Davis, Cornelius J. Field, vice-president of the De Dion-Bouton Company; Albert T. Otto, treasurer of the Automobile Company of America; Andrew L. Riker, vice-president of the Electric Vehicle Company; Percy Owen, manager of the New York branch of the Winton Motor Carriage Company; H. Ward Leonard, president of the Ward Leonard Electric Company; Rollin H. White, of the White Sewing Machine Company, makers of the celebrated White steam carriage; J. W. Packard, George L. Weiss, George B. Adams, and A. L. McMurtry, all of whom handle the Packard carriage; Frank Eveland, who handles the Mobile and the Knox machines, and Lucius T. Gibbs, of the Vehicle Equipment Company. Plenty of others like these could be mentioned.

As will be seen, all of these gentlemen are directly connected with manufacturing or selling automobiles, and they invariably drive carriages they manufacture in tours and races; but from a sport point of view no one ever would class them as being professional automobilists, simply because their sole connection with the subject is not confined to running or racing machines, they being representative business men.

Continuing further, other cases of personal interest in the manufacture of automobiles may be mentioned, such, for instance, as V. Everit Macy, Victor Sorchan and Sidney Dillon Ripley, stockholders in the Automobile Company of America, makers of the Gasmobile.



Then, to go further yet, the stockholders of another concern which may yet be heard from, may be mentioned. Albert C. Bostwick, Bradford B. McGregor, George F. Chamberlin, Winthrop E. Scarritt, and several others, are experimenting in building a motor car which will embody ideas these gentlemen have found to be most serviceable. They have organized the Pan-American Motor Company, and if their car is a success the public will surely hear from it—yet at present they are simply working at it from the point of self-education. Suppose, for instance, the car is good and they expand their company and manufacture on a large scale, the claim then might be made that they were working in automobilism from a point of pecuniary gain. If such events do follow, could anyone seriously claim that these gentlemen were professional automobilists. We think not.

The whole subject may resolve itself to designating a professional autoist as one who is hired by a manufacturing or selling concern to drive its cars, whether displaying them to possible customers, or touring or racing where a prize of money value is put up. The probabilities are that anyone will be allowed to race for money so long as it is shown that he is not hired specially for that purpose by a manufacturer or selling concern. None of these mentioned in this article, with the exception of Messrs. Fournier and Charley, are hired specially to tour or race certain machines, even though they are connected with the manufacture and selling of automobiles.

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Banker Brothers, of Pittsburgh, are branching out in many directions, adding to their old quarters there an extension 40 x 115 feet, two stories high, and leasing another large building for storage near their Philadelphia salesrooms. In both of these they will make a specialty of charging electric machines, for which purpose they are equipped with a 25 H. P. gas engine and charging plant. About the 1st of January they expect to open their New York salesroom, in which they will carry an extensive line of automobiles and supplies for same. They have taken the output of the Peerless Company, of Cleveland, and are agents for the De Dion-Bouton, Knickerbocker, Pierce Runabout, Toledo Steam, Waverly Electric, Daimler Delivery Wagon and Crestmobile.

## Mobiles at Lick Observatory

The accompanying picture shows two Mobiles that went from San Jose to the Lick Observatory on Mount Hamilton, a distance of 28 miles. The total height climbed was 4,400 feet, the first 21 miles being a rise of 2,200 feet, the last 7 miles being 2,200 feet, or an



San Jose to Lick Observatory

average of 7 per cent. These carriages are the first double-seated rigs to reach the top. The one on the right contained W. J. Cotton, William Hitchborn, Dr. Sheets and M. R. Brooks. In the other carriage were H. T. McKnight, M. Piper and A. B. Robinson. The trip was made without accident.

## Stevens Arms and Tool Co. Enlarges

THE J. Stevens Arms and Tool Co., having been compelled to increase the facilities of its plant for its rapidly expanding business, has recently leased the No. 3 mill of the American Bicycle Co., at Chicopee Falls, Mass., the building having been practically unused for more than a year. They will begin the installation of new machinery into the new plant immediately, using the newly acquired building for finishing their rifles. They propose to build up one of the largest industries of the kind in the world. They are preparing to manufacture the Stevens-Duryea gasoline carriage in quantities. This is from the designs of Mr. Frank Duryea, who is one of the pioneers in this line.

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## Uniform Baggage Rules

AFTER long, continuous correspondence with the different railway associations, Mr. E. R. Thomas, of the Thomas Motor Company, Buffalo, has succeeded in having the Western Passenger Association make the following change in uniform baggage rules, namely :

Rule 1, Sec. D. "Motor cycles or motor tricycles" were, on motion, stricken therefrom in the last sentence, making this sentence read : "Automobiles will not be carried in baggage cars on regular trains."

There is no doubt but that the other passenger associations will enact the same resolution, which will prove a great boon to motor cycle travelers.

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A few years ago the cyclists adopted Saint Catherine as their patron saint, because she suffered martyrdom on the wheel. Now, chauffeurs propose to make the prophet Elias, their patron, because he was translated to heaven in a chariot of fire, though the Old Testament does not specify that it was an automobile. Most motorists do not aspire to celestial honors of this sort, anyway, a few terrestrial records satisfying their ambitions.



# L'Allumage

## GLIMPSES FROM FOREIGN LANDS

THERE is a strong movement in France for furthering the creation of a society devoted to the technique of automobiles—everything, in fact, appertaining to new developments in motors—experiments, inventions, etc. It is proposed to make such a society the hot-house, wherein new ideas and projects, which might otherwise be blighted from lack of a little attention and encouragement, may be discussed, propagated and nourished to some good end. The idea seems to meet with general approval, and voluminous correspondence is pouring in to the projectors of the movement.

\* \* \* \* \*

A novel method of insuring the best work and conscientious care from mechanics, employed by private individuals as drivers of their machines, is suggested by one of the editors of a French journal as follows : “ In China one pays his physician as long as he remains in good health. But as soon as the patient becomes ill he ceases his monthly payments—and the solicitous care of the physician is extraordinary ! Apply this same principle to your driver if you wish to assure yourself that he will not shirk his duties ; pay him as long as your motor remains in good condition, but whenever it becomes indisposed cease your salary. You will then only be subjected to insignificant ‘ pannes.’ ”

\* \* \* \* \*

Baron de Zuylen, one of the most devoted motorists of France, and a contributor to *La Locomotion*, avers in an article on the subject of advantages to be derived from races, that the chief reason why France holds the foremost place for improvements in the line of this new industry is because of these same speed trials, which have caused so much dispute and opposition from the public. He stoutly contends that all advance in construction—and hence the success of the manufacturers—is due to these competitive races.

A petroleum motor has been invented which, it is claimed, can be applied to any ordinary bicycle, converting it in the space of half a day into a small automobile, so that all the world may "mote" at a small expense. It is estimated to give a speed of 35 to 40 kilometers per hour and is called the "Autocyclette." Perhaps this is the straw which foretells the millennium in the motor kingdom.

\* \* \* \* \*

The Touring Club of France, with its official monthly publication and 72,000 members, is most energetically carrying out its purpose to join the interests of cycling and motoring by allying them in mutual plans for facilitating touring.

\* \* \* \* \*

The International Association of Automobilists has made a motion relative to the adoption of a uniform system of signals, of which the following are the principal : 1. Yellow signifies stop. 2. Black is substituted for blue in places where the local authorities insist upon a reduction of speed. 3. When an obstacle is passed, white, added to blue, black or yellow, indicates free way. Signals for slowing down are placed about 100 meters in advance of the obstacle. Signals for stopping are at the direct point. All signals are placed about the height of the driver's eye.

\* \* \* \* \*

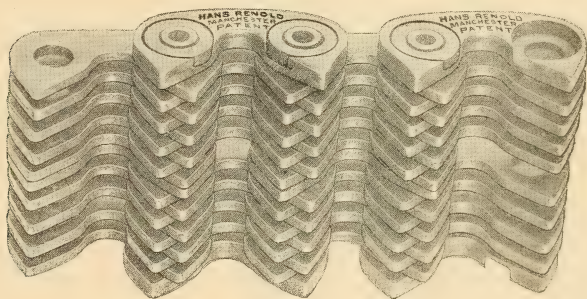
There is a nice little fable of Fontaine's which the motorist may relate for the benefit of his enemies ; fables are such gentle admonishings, too. "At the time when the ass, the horse and the mule dwelt in the forests, free, unsaddled, unharnessed and unbitted, with no carriages to draw, and when there was not yet either cycle or automobile on the earth, nor Law to regulate everything, the horse, wishing to avenge himself upon the deer, whose speed, without doubt, was an offense to him since he could not overtake him on the route, called in the aid of man, imploring him to redress his grievances. Man began by killing the deer, then he took the horse and placed a bridle on his neck. And the naive animal perceived, when it was too late, that it had done a foolish thing."

Whate'er may be the pleasure won from vengeance,  
Wise is that man who overlooks offenses.

LA CHAUFFERETTE.

## The Renolds Chain

THE extensive use of chain drives indicates the demand for some flexible method of transmitting power, and the fact that this is used by some of the best firms shows that it has given good satisfaction. There is a growing tendency among manufacturers, however, to substitute a gear-drive, for the ordinary chain is by no means perfect, and in addition to its wayward tendency to jump the sprocket at times, it is constantly wearing and stretching so as to affect the pitch and with it the effective working on the driving sprocket.



The introduction of what is known as the Renolds style, which was developed by Hans Renolds of Manchester, England, brings to notice a chain in which the wear and stretch do not affect the driving guides and which also has the advantage of being perfectly silent under all conditions. As will be seen from the illustration, this chain is peculiar in appearance, but if its action is followed, the constant driving under various conditions of height of the sprocket teeth will show how the results are accomplished. As it admirably divides the load between all the teeth in mesh, it does not require such an extensive bearing as with the ordinary chain and also prolongs the life of both chain and sprocket.

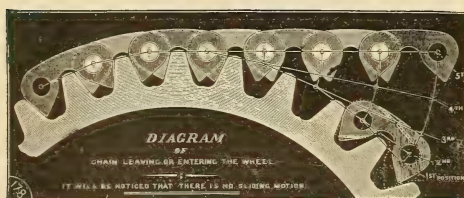
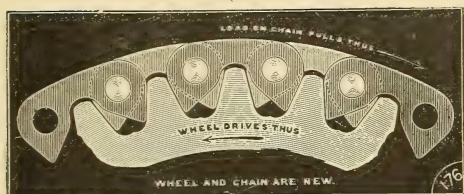
It is, of course, necessary that one wheel of the pair be flanged, to prevent the chain running off, and it has been found better in practice to have the flanges on the driven wheel. The sprockets may be so close together as to barely clear and may be of any desired



length, up to four feet, without the use of idlers. Within these limits any automobile manufacturer should find the length best suited to his carriage.

It has been found that the only limit to speed is the difficulty in

keeping the chain lubricated, as when running 1,400 feet per minute the oil is thrown off by centrifugal force. This difficulty can, however, be largely obviated by the use of graphite as a lubricant. By enclosing both chain and wheels and running in an oil bath, speeds as high as 2,300 feet per minute have been successfully employed and this in the case of a 75 H. P. transmission. Among its advantages, in addition to those already named, are no slip—no tension on slack side of chain which is, of course, easier on bearings.



## General Miles is President.

WITH rooms in the Pope Building, No. 817 Fourteenth Street, N. W., the National Capital Automobile Club, of Washington, with 65 members, is in a most flourishing condition. The officers of the club are: Lieutenant-General Nelson A. Miles, president; Messrs. F. C. Stevens, J. C. Sibley, C. F. Norment, C. E. Foster and E. L. Weston, vice-presidents; W. J. Foss, secretary; P. J. Lockwood, treasurer; Board of Governors—Col. Henry May, Rev. Dr. Prescott, Clarence Moore, Davis Elkins and Dr. Flint.

The Otto Gas Engine Works are the pioneer builders of gas and gasoline engines in America. Their business experience covers a period of twenty-seven years, and the Otto engine is used in every State of the Union. Upward of 10,000 of their engines are supplying power for almost every conceivable purpose. It is a matter of some regret that this company has not taken up the building of automobile engines, as their wide experience would undoubtedly enable them to turn out a superior motor. Larger units have, however, kept their factory crowded to the limit. For isolated electric light plants, machine shops, charging plants, etc., they make a handy and economical power.

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## An Enterprising Agent

Sir Thomas Lipton is fond of relating stories as to the go-ahead nature of Americans in his speeches, and I now can supply him with another which is true, and which will further enlighten the "blarsted" Englishmen as to why the Yankees do things and do them quicker and better than the old country folks, "don't you know."

The other day at Gloversville, J. S. McGovern, one of Sir Thomas' tea travelers, met with an accident while stepping from a street car, which required the services of a surgeon. While he was reclining in bed at the hotel waiting for the doctor, he received a visit from W. J. Murtha, a youthful automobile drummer for the Waverly Automobile Department of the American Bicycle Company. This same young Murtha received his commercial education under the experienced eye of Robert D. Garden, affectionately known as "Bob" by his legion of friends everywhere. Mr. Murtha worked in the Garden store in Philadelphia, selling bicycles, before Mr. Garden became connected with automobiling by becoming the manager of the Philadelphia branch of the American Bicycle Company. It was natural that Mr. Murtha would graduate into the automobile class. He had a passing acquaintance with the aforesaid McGovern, who had ribs to mend, and he confidently approached the sufferer's bed and made this speech :

"Now, old man, you know I sell automobiles and my specialty is selling them to doctors, so when that old sawbones comes to see

you, give him this illustrated catalogue of the greatest automobile on earth, and if you do the thing up right I will buy you a good cigar."

McGovern, who has a strong strain of humor, although suffering intensely, nearly fell out of bed, and said: "Say, young fellow, I will attend to this for you if I am conscious, but say, you had better give me another one for St. Peter if I have to pass in my checks."

I confidently predict a bright future for the ex-Garden salesman from "Slowtown," and this is only another instance where Garden graduates seem to be doing well. Speaking of Garden, calls to mind the great Pullman bicycle road race inaugurated by him and which has been run annually for fifteen years. It is the red-letter fixture in the bicycle line in the West. Success is coming to Mr. Garden in chunks and the Garden family tree is blooming immensely.

"SENATOR"

# Tropenas Department

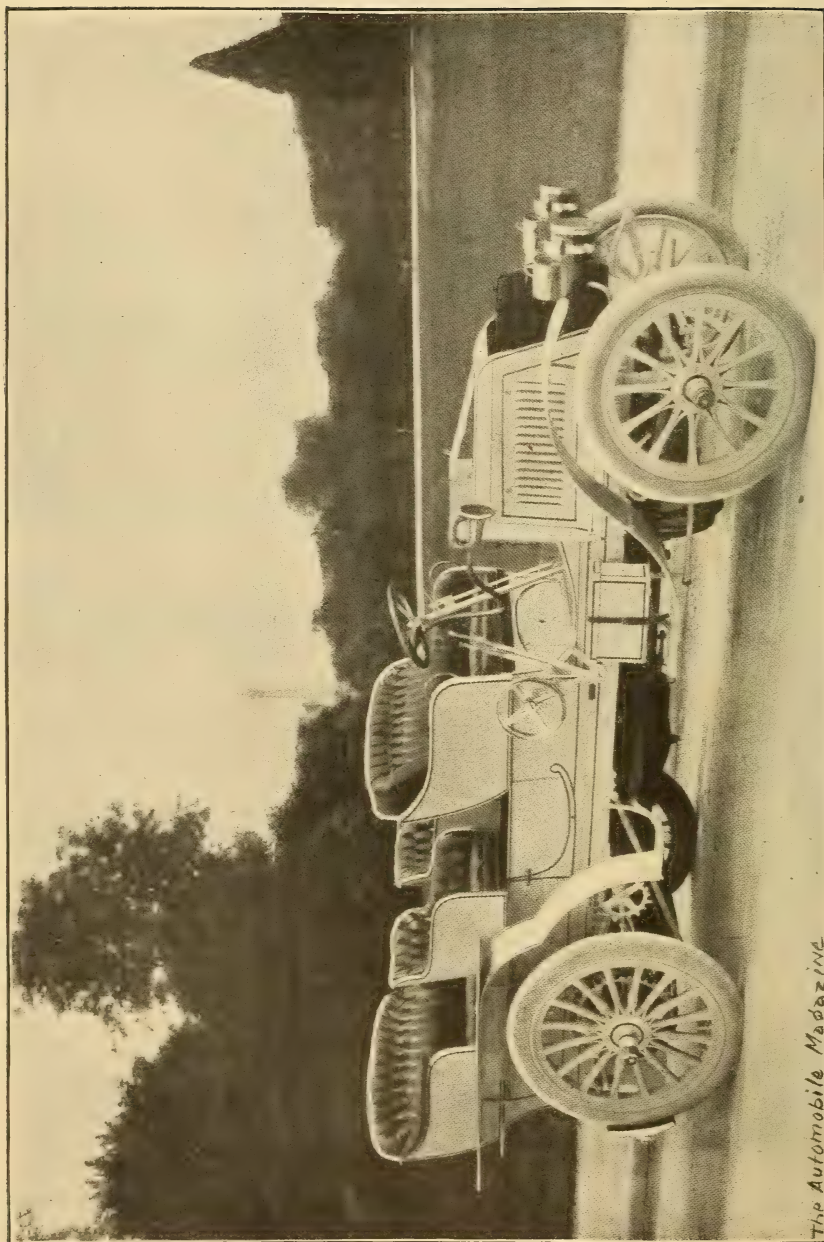
Steel Castings, 25 pounds and under.

Estimates given on not less than 100 from each pattern.

## The Sargent Company







*The Automobile Magazine*

Baron de Zuylen's Large Touring Car

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## The Paris Automobile Show

By ALEX SCHWALBACH

THE fashionable world has generally gone to Paris for its styles. Society having taken up automobiling as its latest fad, naturally turns to Paris for the latest developments in automobile construction. And with good reason too, for there the industry and the sport, encouraged by the government, patronized by the nobility and society, aided by the clever ingenuity of the French artificer, mechanic and chauffeur, and ideal road conditions, are firmly established and have set the fashion to the world at large. Indeed the attitude of the British maker has been well described as "sitting on Panhard's doorstep," a good place also for the American maker. Not that it is always well for us to copy the designs of the great French makers as a whole, or in detail, but only in a general way and adapt them to our uses and conditions.

Germany, the birthplace of Otto and Daimler, is really the parent-ground of the gasoline motor and automobiling. Otto invented the heavy stationary gas engine with its gas jet for ignition, and Daimler after ten years of service with Otto invented the hot tube ignition which permitted the speed to be increased eight to ten times over the older form of motor, besides reducing the weight in nearly the same degree, and at once Daimler realized that the application of it made a self-propelled vehicle on the road a practical thing and then the gasoline automobile was born. He established works at Cannstadt.



near Stuttgart, the home of his youth, and devoted himself to the designing and building of light gasoline motors and motor vehicles.

In 1885 he produced his first motor vehicle, a motor bicycle, which was the first gasoline motor automobile ever made for practical use. It is also interesting to note here that in the elementary principles and fundamental ideas the motor of Daimler and the motor of to-day are one and the same, excepting in a few minor changes in detail; the most important of these being the substitution of multiple cylinders, the vertical cylinder being his original idea, and the electric

spark for ignition purposes instead of the hot tube, the latter while rarely used in this country being still used by many foreign makers. Daimler's idea of reducing the size and weight of the motor and running it at a high speed so as to make the slow, heavy motor of Otto a small, light, rapid motor, solved the problem—and the result is the gasoline motor of to-day.



M. le Baron De Zuylen, President  
A. C. of France

All of this was not lost upon the cunning Frenchman and shortly afterwards

M. Levassor, using a motor of Herr Daimler's, persisted in trying to build a motor vehicle that would carry him once around the forts surrounding Paris without breaking down, and after nearly two years of constant effort accomplished this, then, great feat. It was M. Levassor who suggested putting the motor in front of the dash and the distribution of the other mechanical parts of the vehicle which must follow this practice and which led him and the others to final and great success.

M. Levassor's little trip around Paris has, as all the world knows, developed so that the trip is now made from Paris to Bordeaux without a single stop, except for fuel. Meanwhile other French mechanics were not idle. The Comte de Dion, young, idle, wealthy and socially prominent, while looking for a toy for a gift, saw a small motor in a Parisian toy house; he was delighted with it, bought it and took it

home, returning to the toy shop a few days later to find out who made it, was given M. Bouton's name and address and the acquaintance thus formed led to the formation of the great firm of De Dion-Bouton, an association that has been paramount in making the automobile a social, mechanical and commercial success in France. The French people are great on shows and in 1894 the first automobile show was held almost secretly in Paris in the Salle Wogram, and called a Salon du Cycle—only a few brave spirits who were interested attending it. The next year it was held in the Palais d'Industrie and great progress was shown. The year following it went back to the Salle Wogram and the Palais du Sport, so that they had two shows instead of one, owing to an unfortunate split among the Cycle Makers' Circle. Notwithstanding all these moves and changes the shows kept on growing in size and increasing in popularity and influence. During all this time, however, the new motor vehicle industry had grown tremendously and held a show of its own at the Tuilleries Garden, which was a record-breaker.

In 1900, the World's Exposition year, the cycle and motor shows were joined and the result proved advantageous to both.



M. le Marquis De Dion, Vice-President, A. C. of France

At present the Salon du Cycle et de l'Automobile is an annual affair, a December fixture, and is held in the Grand Palais, a building devoted to artistic and industrial exhibitions. The 1901 show, which revealed the products for the coming year, closed on Christmas day and was officially opened on December 10, by President Loubet, accompanied by his ministers and officials and in the presence of 41,324 persons who had passed the gates. On the first Sunday the show was opened, 27,236 people passed the turnstiles of which about 25,000 paid an admission fee. The daily week-day attendance averaged about 11,000 people. The final scene was the drawing of tickets for the free lottery for which the chief prizes were two automobiles. The estimated profits are about 100,000 francs which will be divided equally between the exhibitors and the Automobile Club.

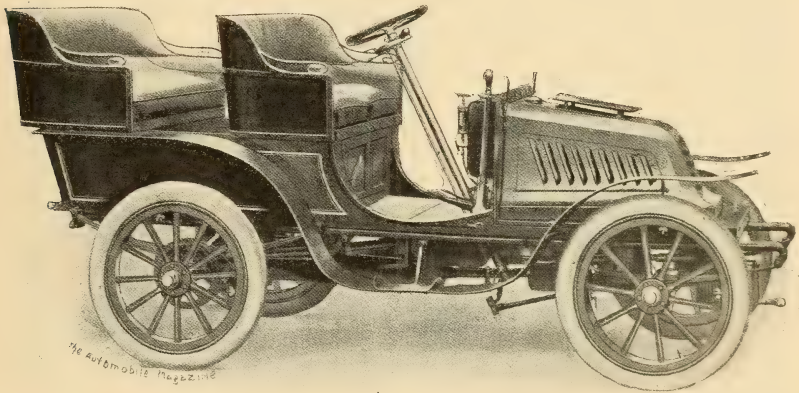
The show differed from ours in being open on Sundays, closing every day at 6.30 p. m., the joint exhibition of cycles, autos and flying machines, the richness of the decorations of the stands and signs, and last but not least the beauty, light, ventilation, and the cleanliness of the building. The aerostat and keel suspended from the roof of the great nave was built for the Henry Deutsch Navigable Balloon by the Mors Company. Indeed the privilege of being able for the first time to inspect a show of flying machines and balloon appliances, a most interesting collection at that, the electric keel of the famous navigable balloon "La France" being one of the main features, was alone worth the nominal price of admission. The total number of exhibits was greater than of any other previous show, there being 110 exhibitors, of which 7 were electric, 3 steam, and 100 gasoline vehicles, valued at over 5 million francs, and the demands for space were so great that most of the exhibitors had to take less space than they asked for, a point which emphasizes the great growth of the industry there, during the past year. Large numbers of new firms have entered the field with every prospect of success, now that the evolutionary period of the industry has passed, practical systems of tried value being in vogue, and the risks of originality are diminished by following along the lines of accepted good practice.

American interest in the Paris show has been stimulated by the glowing reports brought back from France by returning tourists and the number of French automobiles that have been brought into this country during the past year, this last statement being evidenced by the preponderance of French motor vehicles in the loan exhibit of the New York Show of November last, only one German vehicle, the "Daimler," and one English vehicle, the "Napier," having been shown with them. It was obvious even to the most superficial observer at the New York Show that the new French designs were to be largely copied by many of our American makers, not but that we had always copied from them, but unfortunately, as an infant industry in swaddling clothes, had not kept pace with the most advanced French ideas and makers who apparently have had their seven league boots on all the time and thus kept in advance of us continually. Brief and scattered cablegrams from Paris concerning the show have been published heretofore, but since its close the foreign mail has brought copies of the French, German, and English automobile journals from which the illustrations and reports of the show have been taken and are here presented.



Among the large number of vehicles shown the prevailing tendency was to follow the leading features of the Panhard and Daimler practice, and in the light models the Darracq and Renault forms were those which were standard patterns. Not wholly in exact copies but only in the general design and main points was the similarity noted, the variation in detail, however, being considerable.

The voiturette and the light carriage types are still embryonic and in evolution and the quadricycle has almost been superseded by the small voiturette, the motor bicycle having usurped the popularity formerly enjoyed by the tricycle, only a few of the latter having been shown. The motor bicycles, it was said, excepting those already



Darracq 1902 model

well known in England and one or two new ones of merit, were not considered as promising as those recently shown in London and they were therefore disappointing.

No attempt has been made to present here a stand-to-stand report of the show, the idea being to describe only the new things and the mechanical tendencies developed.

#### ELECTRIC AND ELECTRIC-GASOLINE CARRIAGES.

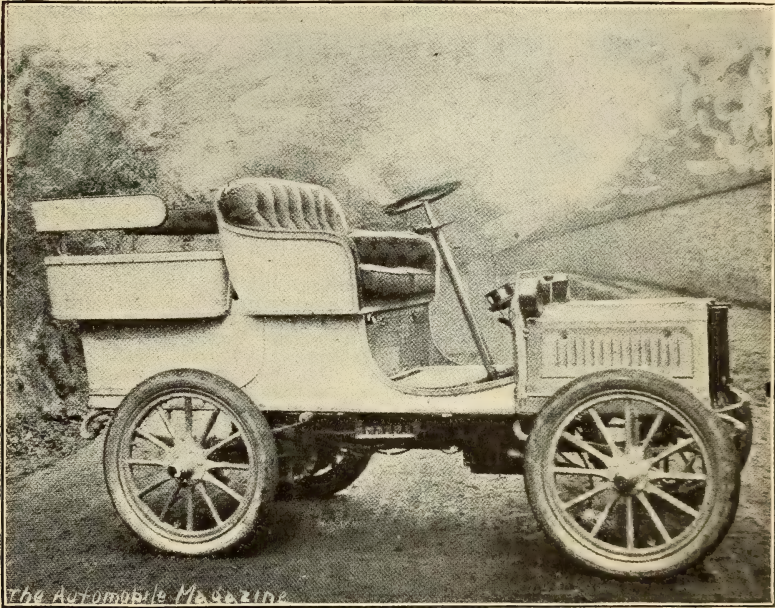
Two well-known American electric carriages were the Riker and Columbia. The Mildé, a leading French make, was also there. De Dion-Bouton showed a couple of electric vehicles, using batteries and motors of their own make. They also exhibited drum type motors in aluminum cases. A little three-wheel voiturette was shown in

which an electric motor was placed over the front wheel, the speed being first reduced by pinions and then carried by a belt to a pulley on the hub. The batteries were carried in the body under the seats. Two interesting electric-gasoline combination carriages were shown, one being the famous Jenatzy. It was fitted with an old-pattern Mors gasoline motor with the dynamo on the crankshaft, the dynamo acting as a fly-wheel while it sends current into the battery or runs as a motor when extra power is needed. The gasoline motor is started electrically and the whole vehicle can be run electrically if need be. The carriage was rather heavy, weighing 1,250 kilos (about 2,700 pounds), inclusive of 340 kilos of batteries, but it will be made lighter. Some question has arisen as to the gain, if any, that is made by making electricity on a moving vehicle by a gasoline motor. It would seem that in this combination of gasoline motor, dynamo and batteries all the ills the automobile is heir to were to be found. Possibly some of these ills are not real, and if they were this system may overcome them. It certainly has these advantages: A motor of 50 per cent. less power and weight, its ability to climb grades by the use of the allied powers, small consumption of gasoline, no transmission gear, low cost of maintaining the batteries which are always working under favorable conditions and are never exhausted, because on down grades the dynamo begins to recharge the batteries, and on levels the excess current is shunted into the batteries. An American type of this carriage called the Fischer is now being experimented with and may be shown at the Chicago show.

The other combination vehicle was a gasoline-electric car shown by M. C. de Champrobert. This carriage differs from all other "mixed" vehicles because it has no batteries. Electricity is generated by a gasoline motor driving a dynamo and used in an electric motor on the rear axle. The vehicle only weighed 550 kilos, which is less than most light carriages that are propelled by internal combustion motors of 8 H. P., the force employed in this car. On the crankshaft is a dynamo which serves as a fly-wheel at the same time that it generates current. This current passes direct to a series motor, which is geared by pinions on to the rear axle. An electric regulator acts on the induction of the gasoline motor, so that when the dynamo begins to generate more than is needed the admission of gas is automatically throttled. It is claimed that 75 per cent. of the power developed by the gasoline motor is utilized on the rear axle, which efficiency is greater than is possible with mechanical transmission.

## A NEW FORE-CARRIAGE

An attachable fore-carriage has long been needed, but a really practical one has not yet appeared to fill the demand, although a great many inventors here and abroad have tried to devise one that could be readily fitted to an ordinary carriage and convert it into an automobile. A good one exhibited had, of course, the whole of the mechanism carried on the front axle and consisted of a 10 H. P. motor with two cylinders in the same axis, the pistons working on one crankshaft. Power was transmitted by a shaft and bevel-gears to



Ceainprobert Petrol and Electric Car

the counter-shaft behind the axle. At the ends of the counter-shaft are the pinions on the driving-wheels. The changes in speed are effected by the magnetic system, similar to that which was experimented with by Panhard and other firms two or three years ago. This plan enables the makers to do away with the balance-gear, since the two end pinions are normally fixed magnetically, but on turning the steering-wheel one of the pinions is automatically unlocked and turns free on the shaft. The working of the fore-carriage, therefore depends entirely on the current supplied by a small battery, and it is



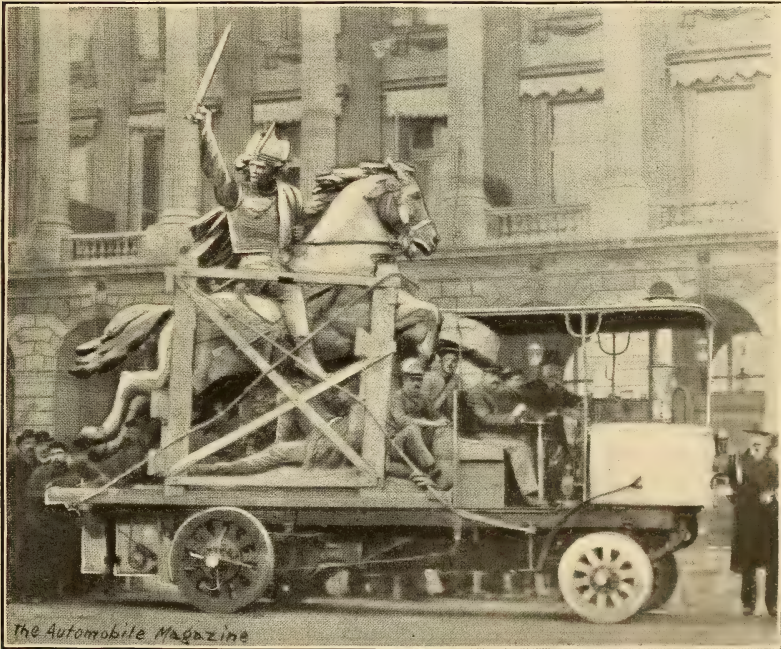
doubtful whether this system will prove more successful in this light mechanism than it did in the big carriages. The gasoline and water tanks are carried behind the axle to balance the weight of the motor in front. In fitting this arrangement nothing has to be done to the carriage beyond making a hole in the footboard for the passage of the steering-pillar. The *avant-train* is bolted underneath, and pivots on tension-tubes connecting with the rear axle.

#### STEAM CARRIAGES

"Mit Dampf" is evidently not the popular thing in France as it is with us, only two French carriages being steamers—"the Serpollet" of last year without change, and M. Chaboche's new steam carriage, which differs largely from accepted American practice. The boiler, a semi-flash style, is composed of spirals of tubes, heated by three kerosene burners, and is placed either in front or rear. The two-cylinder double-acting engine, slightly inclined out of the horizontal, is situated under the fore-part of the vehicle, and the crankshaft turns in a box, which also contains the gear for two changes of speed. The transmission to the rear axle is by a shaft. The generation of steam, according to the resistance to be overcome, is practically automatic, as is also the lubrication, so that once the vehicle is ready for starting, no further attention need be given to it. A large surface-condenser of small volume is placed under the fore-part of the carriage, and it is claimed that one supply of water and kerosene will run the vehicle 62 miles. It looks more like an up-to-date gasoline vehicle than a steam wagon.

On a large steam lorry, built by Dion and Bouton, was shown Bartholdi's great statue of Vercingetorix, destined to ornament one of the squares of Clermont-Ferrand, but first exhibited under the Central Dome of the Grand Palais. On Tuesday, December 3, the huge motor-car conveyed the work to the Grand Palais, and after the closing of the show it will carry its precious burden to the chief town of the Puy de Dome. The journey there will occupy some five or six days, and the average speed will be from ten to twelve miles an hour. Our illustration shows the statue at the moment when it left the foundry. Round it are grouped the chief workmen who cooperated in the casting, and in the very center the eminent sculptor, M. Bartholdi. The drivers are those who will convey the statue to its final destination. The work represents Vercingetorix waving his sword, reining in his charger, and cheering his warriors to attack the

Roman legions. The model has already been in existence for thirty years, and the subject has been made famous by pictures. It has even appeared on the label of a certain mineral water, to the proprietors of which it was granted as a trade-mark. This concession was made by the committee in order to augment the subscription for the erection of M. Bartholdi's work on the scale originally projected. The statue was intended at first to be set up on the Plain of Gergovia, near Clermont, which was the scene of the last effort of Vercingetorix



Bartholdi's Vercingétorix

against the Roman invader. Considerable regret has been felt that the statue could not be cast in the colossal proportions of the first design, as it would then have been a superb pendant to M. Bartholdi's "Lion of Belfort." But even in the state in which it has been finally cast the work is imposing.

#### TRANSMISSION GEARS

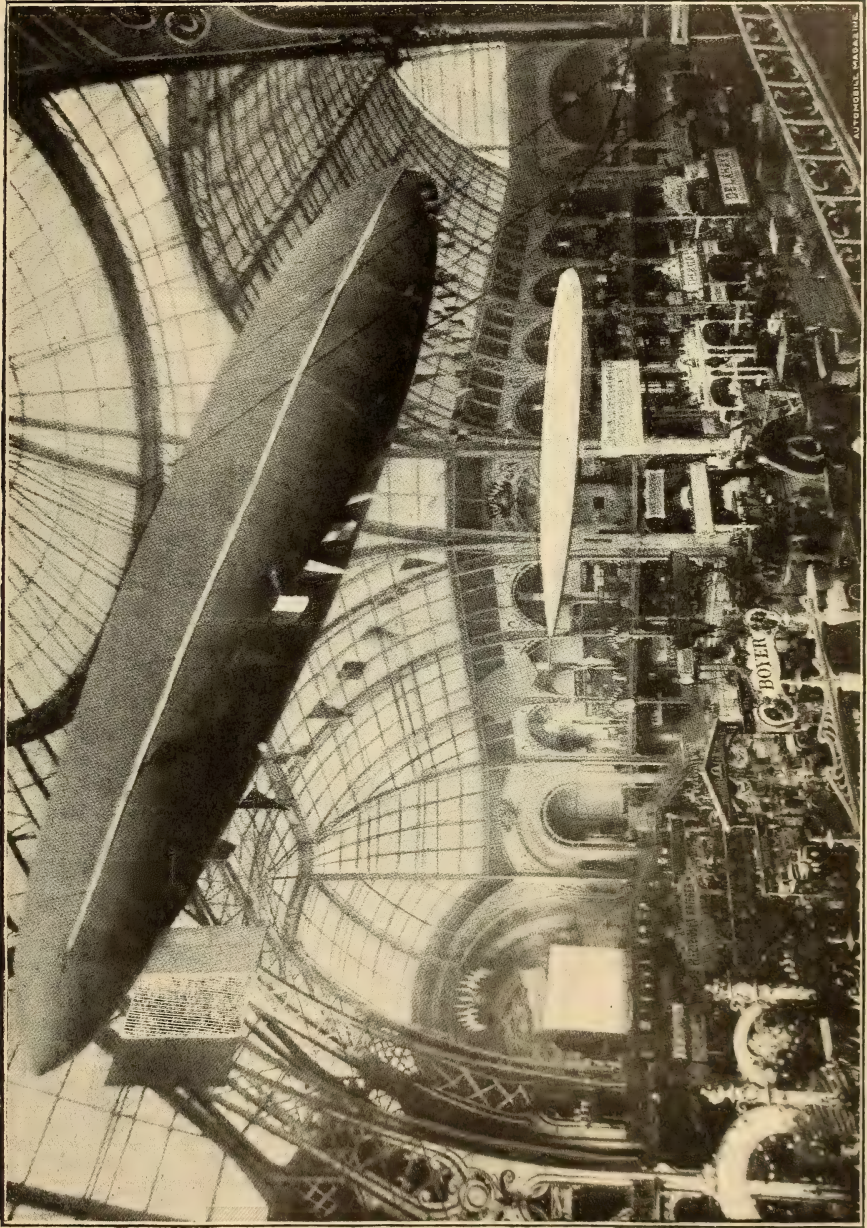
Nearly all the French cars imported into this country have the double chain drive, *i.e.*, one chain driving on each rear wheel from a counter-shaft carrying the differential gear, this shaft being in turn

driven by a bevel or spur gear connection to the main shaft, and change speed gears—the rear axle being rigid. It was therefore supposed that this method would be in universal use at the show, but it was not. The flexible shaft carrying gears to a live rear axle with a differential gear, the wheels being made fast to the ends of this axle on the American style, being more largely shown. Both methods have their objections, the stress of the chain pull increases enormously as the load of resistance increases and the tendency is to yield in the direction of least resistance as is obvious. From this tendency to draw the shaft and axle toward each other, the bevel gear is altogether free, but the gears must be placed in the frame with perfect exactness, and kept so—the flexible shaft being intended to keep it from getting out of line. The bevel gear is well-known to be a waster of power by friction. There is also the problem of end thrust to be considered, and the tendency of the gears and pinions to roll away from each other, and the side thrust produced thereby, besides the difficulty of keeping them lubricated and their clatter and noise. Summing it all up, it seems as if a combination of the two methods would produce the best results. The American idea of a single chain-drive in the center with the necessarily weak divided axle, not being as good practice as the French method of driving from a strong differential geared countershaft with a chain on each end running to and fro on a sprocket on each rear wheel mounted on a stiff, rigid, solid axle, which will carry the load and resist the driving pull of the chain.

No great advances were shown in transmission gears and the industry is still plagued with this problem. As usual nothing succeeds like success, and the use of shaft transmission on a few well known and popular make has of course induced a large following, so that the shaft with the train balladeur—another typical word like *tonneau*, added to the etymology of the industry—is the most popular form. Fixed and sliding trains of spur gears, owing to their simplicity, low cost, and ease of production, have almost superseded the method of keying the loose wheels in mesh. It is not to be inferred from this that the train balladeur is perfect, only that it is more practical in use than gears composed of many parts, which are apt to be complicated. The belt still bobs up serenely, but only where it can be run under high speed, and some forms of expanding pulleys are gaining in favor.

The Foullaron cars showed a system of transmission by expanding pulleys, which consist of two steel cones built up with





Interior of the Salon of the Grand Palais

triangular section arms or spokes to slide into each other. The belt is made of triangular pieces of hard chrome leather, through which pass a number of large cat-gut cords, and while fitting into the groove of the pulley the rigid leather sections offer considerable resistance to the steel sections forming the cones. Under the steering wheel is another hand wheel operating a spindle which, by a screw movement, displaces a lever hinged at the ends to one of each pair of cones. While therefore one cone is being drawn away, the other is pushed forward, and while the diameter of the pulley on the motor-shaft may be increased that on the counter-shaft will be diminished. When the cones are close together a large diameter results, and as they are separated the diameter of the V driving gear increases. Every possible change of speed can be made without sound.

There was an expanding pulley idea called the Cheminette, consisting of steel strips hinged at the center and the circumference, and thus expanded and contracted for variation of speed. Brouhot et Cie. showed a car without a differential gear but having ratchet clutches inside the hubs of the driving wheels. In taking corners the outside wheel runs free, and on dropping down again to the same speed as the inside wheel the rocking pawl falls into the teeth for forward driving. The De Dietrich Car had a long crossed belt from the crank shaft to the change speed gear, which is not new, the German Benz Car having long used it, and American makers having abandoned it long ago.

Steering pillar driving as developed by L. Mégy, whose patent spur wheel gear is in general use in foreign engineering shops, was for the first time shown on an automobile. The car is driven entirely by different movements of the steering spindle. When in a vertical position, the motor is out of gear. To put the engine in gear the pillar is brought back to a position for steering, and is then pushed down, when levers at the end of the pillar force in the clutch. An upward movement throws the motor out of gear, and puts on brakes, and a further movement upwards reverses the vehicle. The pillar can be fixed in any of these positions by means of a small lever underneath the wheel. There is no change speed lever, as the speed is varied automatically according to the resistance the carriage has to overcome. The spur wheel for three speeds and reversing are always in mesh, and on each of the loose wheels is a large collar or drum, inside of which is a leather disc. These discs are operated by a rod inside the shaft, and are displaced by the resistance met with by the



vehicle, so that when the car begins to slow down on one speed the rod moves forward and presses the leather disc on a lower speed wheel, and when the resistance diminishes, it moves back automatically to the higher speed, the motor meanwhile running all the time at the same rate. Any one speed, however, can be fixed by a small lever on the dashboard. The car thus regulates the speed according to the character of the roads and the gradient without any attention on the part of the driver, the passing from one gear to another being caused simply by the varying resistances.

#### RUNNING GEARS AND BODIES

In under-frame or running-gear construction, "armoured wood" frames are popular for light carriages instead of channel or angle-steel frames, which were in vogue paradoxically on either the very lightest or the very heavy types of vehicles. Tubular frames, which were always very popular in France, are again in greater vogue, the tubes being of much larger diameter and stiffened with longitudinal stays on the principle used in single span bridge construction.

Lengths and widths have, however, been greatly increased, the average being 8 feet 2 inches in length and 6 feet 6 inches in width.

Unusually large cars were scarce, not more than half a dozen by actual count being shown. It is true that there were plenty of heavy appearing vehicles in the show, but even these were labeled "light cars," notwithstanding their weight and power, this first impression of massiveness in the light carriages, doubtless arising from the great changes made in this popular type of carriage. The increased length and width of the under-frame permitted the adoption of the tonneau body to it, thus making the light carriage more roomy and comfortable and giving it the effect of the larger vehicle, without its great cost, weight and expense of maintenance. The tonneau body has been improved by flaring out the sides, bulging out the corners to overhang the frame, and making the seating capacity in the rear longer. While it was tonneau here and tonneau there and tonneau everywhere, there are a few objections to it and a new style of double phaeton was shown which when boxed in at the back, or covered with an awning or top becomes a limousine and nearly all the leading makers showed them. A year ago the tendency towards light car construction was noted; it is now general, and the popular type is the light car with vertical cylinders, the motors running at low speeds, mostly at 800 revolutions, a few exceeding 1200 revolutions per minute, with horse-powers of 8 and 10 and sometimes 15.



From the point of view from this side of the Atlantic, it seems strange that in their efforts to popularize the light or rather small voiturette the French have not adopted American runabout and phaëton bodies, these two styles lending themselves most readily to this form of light construction and meeting the demand for a popular priced wagon.

#### NOVELTIES IN CONSTRUCTION

M. Prosper Lambert showed a carriage with a De Dion - Bouton motor having the differential gear and transmission shaft running on ball-bearings, a system which must eventually be adopted by all the makers, on account of its cleanliness, economy in use of oil, and great saving in power.

The Bardon and the Gobron-Brillié cars were really the only ones that could be run with pure alcohol, but nothing in the show indicated that alcohol could be used more economically than gasoline.

De Dion-Bouton showed a railway inspection car propelled by a gasoline motor.

De Dietrich exhibited a light delivery wagon which could be converted into a tonneau body in a few minutes, an idea which will be popular if it ever reaches here, for then our corner grocery man can use it all the week for business and go down the road on Sunday with his family.

On the new Charron the driving-axle was jointed at each end and near the bearings by a double knuckle joint so as to give great flexibility in every direction.

Rochet and Schneider use ball-bearings with retainers. This firm rightly believes that ball-bearings are better than plain bearings, and they base this opinion upon the experience gained on the trials and hill-climbing tests held during the year.

#### TIRES

In the tire department were shown some new devices for preventing punctures and side slip. A tire had a tread made of a broad and flat projection, on which were fixed narrow metallic strips, the ends of which were turned down over the thickened tread, and fastened by pins. Other pieces of metal bent to a rather sharp angle, were fixed to the thickened edge, so that they interposed between the rim and tire to prevent rim cutting.

The "Croissant Armé" is also new and consists of a number of fine wires set closely together, and covering the whole of the outer

cover. The wires have a wavy form so as to give to the compression of the tire. The ends of the wire project on the tread just enough to give a rough feeling to the touch and while the device will hold the tire on a slippery road, the close setting of the wires will prevent the air chamber from being punctured. Another device shown consisted in making the air chamber double, the inner one being of much larger diameter, thus fitting in irregular folds against the outer air tube when inflated. When the tire is punctured the loose inner tube gives way, or even should it be punctured in its turn the holes do not correspond, with the result that when the puncturing instrument is withdrawn and the loose tube is forced against the outer one by the air pressure, the puncture is closed. Another device resembling the American Metallic Tread Tire has a leather belt on the tread fastened by copper pins and studded all over with brass nails.

The well-known Michelin, Continental, Dunlap, and Clincher detachable tires were of course popular, the single tube tire was rarely seen; the wooden spoked artillery wheel was also the correct thing, the tangent wire-spoked suspension wheel being rare.

#### MOTORS, CARBURETERS AND IGNITION

The heavy vertical motors running at a comparatively low speed, ranging from 750 to 1,000 revolutions and seldom exceeding 1,200 revolutions per minute, seem to have influenced the use of many single cylindered motors of from 7 to 12 H. P. running at about the same speeds, and caused a reaction against the use of motors running at 2,000 revolutions per minute. It was inferred by many critics and reviewers of the New York Show that single-cylindered motors were altogether out of favor in France. The Paris show did not sustain this inference, for among the single-cylindered makers were found such well-known names as De Dion-Bouton 8-12 H. P., Gillet Forest et Cie, M. M. Amadie and Leon Bollée 9 H. P., 1,000 revolutions, weighing 130 kilos, Lepape 12 H. P., Clements 7 H. P., 1,200 revolutions, and Delahaye 7 H. P., with many others not as well known. Two forms of double horizontal motors, the Crouan and Supra-moteur were shown, but were placed transversely in front of the body, not longitudinally as on our Winton and Haynes-Apperson. The vertical motors of either 2 or 4 cylinders are the most popular and their economy and durability more than offset their slightly increased weight. All of them are not heavy, the Bouchet 40 H. P., 4 cylinder motor, weighing only 160 kilos (330 pounds) or 8 pounds per H. P.: and owing to their lightness two of these motors are being made for

M. Santos Dumont's new air ship. Peugeot showed a 15 H. P. vertical motor running at 900 revolutions, and Decauville one of 20 H. P. The largest one in the show was the 60 H. P. Mors built for the Hon. C. S. Rolls, a leading British motorist. A motor of the same make and size was also exhibited, being built to propel the Henry Deutsch navigable balloon. Panhard showed two new types of 10 and 15 H. P. motors, and Mors two of 8 and 12 H. P., both makes being fitted to light carriages of the modified heavy car styles which are so well known. In the double vertical cylinder motors the tendency was to run them at low speeds (750 and 1000 revolutions) and, what was more remarkable, low forces of from 6 to 8 H. P. The Richard was  $7\frac{1}{2}$ , Schaudel 6, Baille-Lemaire 8, Rochet et Schneider 8, Abeille 10, and Hidier 8 H. P. These were all fitted to light carriages but the limit of power for this class has not yet been reached. The motors have been improved by casting the cylinder and head in one piece, the use of external valves to permit removal for inspection, making the valves larger, operating the pump from the main shaft by gear, regulating the admission and not the exhaust, although many of the makers still use the latter method on the ground of economy and greater elasticity of the motor, because the compression is always the same.

There were several interesting features about the vehicles of Cottureau et Cie., who use a four-cylinder motor on their new light carriage, the cylinders being inclined in pairs at an angle of 45 degrees. The elasticity of the motor is increased by an arrangement whereby the advance of ignition gives a corresponding advance to the exhaust. This is done by moving the cam by a connection with the lever for the advance of ignition, so that the lifting of the valve rod is timed in a manner to always insure a good clearance of the cylinder. The incoming charge is consequently of larger volume, and gives a more powerful piston stroke, with the result that the fall of power with a reduction of piston speed is claimed to be much less marked than in other motors. The idea is one which certainly points to great possibilities of improvement in the gasoline motor. The magneto is greatly strengthened by coils which increase the self-induction of the circuit and give a stronger breaking spark.

On the Crouan cars great elasticity was given to the motor by automatically varying the quantity and quality of the gas mixture according to the speed of the engine ; in other words the greater force of the piston-stroke compensates in a large measure for the falling off



in the centrifugal force of the fly-wheel. The motor is placed transversely in front of the vehicle with the two cylinders in the same axis and the changes of speed are made by fixing the wheels which are always in mesh, with leather discs under air pressure, this pressure being obtained from a tank kept supplied by a small air-pump.

M. Lepape, a well-known inventor, had a new motor combined with a pump to give an explosion at each revolution. By the side of the vertical cylinder was another of smaller diameter, in which the piston acts as a pump. This was connected with the induction valve



Richard's Exhibit

and the two pistons run on the same crank-shaft. The pump draws in the gas from the carbureter, and when the piston of the motor reaches the end of the stroke, and uncovers the exhaust valve near the bottom, the upward stroke of the piston in the pump sends the gas under slight compression into the motor, and drives out the burnt gas. The cylinder is thus cleared by the incoming charge. The motor runs at a thousand revolutions and is single-cylindered of 12 H. P.

The Richard motor is lubricated automatically by the exhaust which forces the oil into the working parts.

Peugeot has now devised two and four cylindered vertical motors

for his light carriages, developing 15 H. P., at about 1,000 revolutions a minute, with so little vibration that none of it is felt on the steering wheel. The induction valves are mechanically operated by a half-time cam-shaft, in the same manner as the exhaust valves usually are. The inlet valves are on one side of the cylinder, and the exhaust on the other, so that there are two half-time shafts. The governor is on the throttle, and the ignition is coupled to it, and is automatically advanced or retarded as the charge is increased or decreased. It can, however, be separately controlled from the steering column, so that the motor can be run fast on a light charge when desired.

The Société du Supra-Moteur had a motor of the horizontal type with two cylinders in the same axis, and placed transversely in the front of the carriage. The pistons work on the same crank-shaft, and as the four cylinders give an explosion for every revolution, the fly-wheel is dispensed with.

All the motors, it matters not whether they have single, double or multiple cylinders, are placed in front of the dash, not wholly as copies of the prevailing style, but because of the popularity of the double-seated tonneau and double phaeton body, which requires the motor out in front for convenience in getting at it, and also to balance the whole construction, and give the light carriage a long wheel base and low center of gravity.

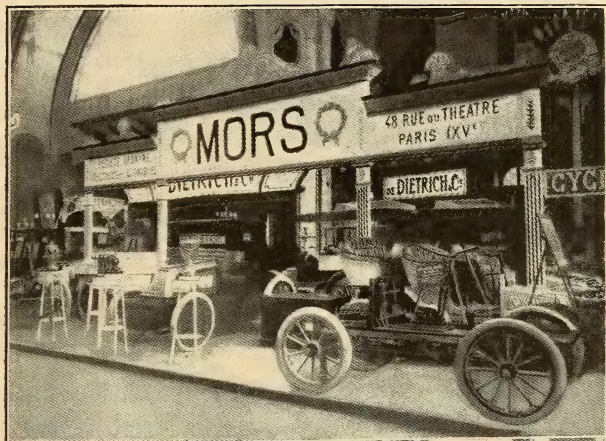
The influence of the heavy racing cars has been paramount in producing this result, speed and power requiring an almost perfect construction, which has been reproduced in detail in the light carriages. Observers of the trend of the industry have noted this tendency and expected this ultimate result in the desire for speed.

Apparently a finality in design has been reached; French, German, English and American makers all producing one type, a type that will now be made in great quantities and good qualities, varying only in details of construction, and giving satisfaction to the user and profit to the maker.

It was expected that the show would bring to light great changes in carbureters, but only a few were seen. Pulverization and liquid spray systems were in great favor. Among the new things were the "Sthenos" carbureter, this being based upon a principle wholly new. Instead of the gas mixture being sucked in solely by the aspiration of the motor, it is carried up by an induced draught. One feature of the carbureter is an inverted cone, having an angle of  $7^{\circ}$ . At the opening of the spirit-pipe is a small cone, which can be raised or



lowered by a screw to regulate the quantity of spirit. When the motor draws in air, its expansion in the upper part of the cone creates a depression at the small base around the spirit pipe, and results in a rush of air which draws up the gasoline and projects it violently through the induction-pipe of the motor, and it enters the combustion



Two Leading Exhibits

chamber in a perfect atomized mixture. It also works well with a mixture of gasoline and alcohol, and kerosene can be used after the motor is made warm by using gasoline.

On a Schaudel carriage, the carbureter formed a part of the motor



itself, so that it is always maintained at the same temperature as the gas and run under any condition without varying the mixture.

While it is conceded that the French makers as a whole are leaders in the industry, it is not to be conceded here that it is wholly on original ideas that this leadership is due, but largely to their ingenuity and ability to adopt what is best in German practice (a good example of which is the Cannstatt-Daimler car construction) the English Napier and Wolsely, and the details of our best American practice, and combine them in their construction without giving credit to their originators and call the result wholly theirs. That the show has emphasized this statement in a marked degree, is the opinion of every unbiased observer.

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### AUTOMOBILE EXHIBITION IN COPENHAGEN

**A**N exhibition of automobiles will be held in this city from April 11 to April 27, 1902, under the auspices of the Danish Automobile Club and the Society for the Promotion of Industrial Arts. It will be held in the building of the last-mentioned society, and is designed mainly for automobiles, but some space will be given to motor cycles and articles relating to the driving of automobiles. The exhibition is intended to attract visitors from all the Scandinavian countries.

The conditions of the exhibition are as follows:

Notices of a desire to participate in the exhibition, containing information as complete as possible concerning the nature, size, weight, etc., of the machines, accompanied by illustration, if convenient, are to be sent by the 15th of January, and are to be directed to Industriforeningen, Copenhagen.

During February, replies will be sent stating the extent to which the notifications have been accepted and the latest day at which the articles must arrive at Copenhagen.

## Motoring for Quail

WHEN I was invited to join a small party of sportsmen at Tom's River last November on a still hunt for the wily quail, and found I was to be conveyed thither by a fervent motorist in his new surrey, I was inwardly dubious, but, assuming my most nonchalant air, accepted without an instant's hesitation and, the day of departure arrived, donned that most unbecoming garb suited to the requirements of such a trip and climbed to my seat without an apparent quiver of fear. The black goggles seemed to smirch the sunny landscape and I felt that I resembled an Egyptian mummy or a newly stuffed sawdust doll but, as the friend whom I accompanied expected to profit by my knowledge of the route (gained on a previous bicycle trip), I braced up to meet the occasion and kept a good lookout ahead.

At first the gentle smooth motion seemed pleasantly exhilarating and I was congratulating myself on being along as "guide, philosopher and friend," but as the pace increased I found myself wrapped in an impenetrable cloud of dust and unable to distinguish an inch of the route, while as for hearing a word that my friend said, I might as well have been at one end of a boiler-shop and he at the other. Automobilists may well claim that the grumbling rustics intentionally collide with them for it's not within the power of anyone to manœuvre in such manner as to avoid that which he neither sees nor hears.

Presently I became aware by the inclination of his body in my direction that my friend was trying to ask me something, but what? Finally he put his mouth to my ear and screamed :

"Where are we?"

I replied in all sincerity :

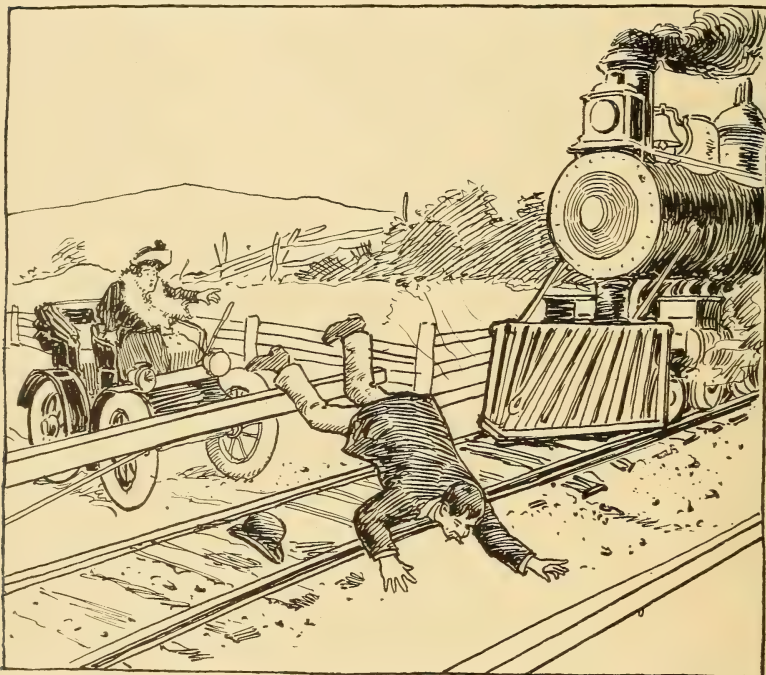
"I don't know, I can't see a thing." And that was as true a statement as I could have made under oath ; in fact we might have run down a score of my nearest relatives and I would have been none the wiser. But the main route was straight ahead, as we discovered by halting for a survey, and we boomed along without hindrance till, suddenly, we heard an ominous sound—ominous and loud or we should never have distinguished it—the voice of the Big Brother of the automobile, a shrieking locomotive attached to the express that

was bearing the rest of our party to their destination and crossing our track at that point, the gates being down and traffic barred.

My friend had often boasted to me :

“How is it possible for an experienced motorist to run over anyone ! As for me, I can stop within one block and that, too, on a steep descent, at a high rate of speed.”

I had always supposed that to be an exaggeration, but it was



A Sudden Halt

true nevertheless, for although we were almost at the bars when we heard the whistle he *did* stop, instantly, calling out to me as he did so:

“Hold on tight !”

This was well-meant but unnecessary advice, for I had been holding on to everything I could clutch ever since we started, and was just thinking tape-worms would make excellent chauffeurs, nature having blessed them with such extraordinary clinging capacity that nothing less than death loosens their hold. I continued to “hold on tight” therefore, but unfortunately, the generous man who gave me this most prudent counsel, neglecting his own precepts, vaulted



forward, shot over the bars and fell sprawling on the other side of the track, escaping the locomotive by a mere hair's-breadth. My first thought was that he was killed, my second that he might have chosen to die at a more convenient season for me, for, if you've never found yourself at the mercy of your own ignorance on some crazy machine, knowing that if you but stretch out a finger unwarily you're apt to strike some lever that will send you straight to hades without absolution, you cannot appreciate my feelings during this moment of suspense, till I dared look down, and found my friend painfully rising to a sitting posture and heroically contemplating his hands on which the skin was hanging like shredded wheat biscuit. Seeing my look of relief, he said :

"Did you see how quickly I stopped her?"

I ungenerously replied :

"Yes, and if we ever get to Toms River I suppose you will *stop* at the surgeon's?"

But he only asked "why?" with the most innocent air, so I let it pass. Motoring renders these unfortunates absolutely irresponsible.

We resumed our route exactly as though nothing had happened, at the same mad speed, no other accidents of importance occurring, unless you take account of a few dogs and chickens, a narrow escape with an Irishman, who, half tanked, and full of objections to automobiles in general, planted himself in our path with the intention of arguing the question, and a load of hay that toppled over at sight of our approaching machine. Some portions of the route were traversed like a cyclone, and once or twice I vaguely perceived through the dust an officer waving his arms to heaven in protest, but my friend assured me we were strictly within speed limits, except on unfrequented roads where there was no danger of encountering pedestrians or horses without timely warning.

Towards eve a slight shower laid the dust and rendered it possible to see our way, but the night soon fell and when we halted near a country inn, I thought my wise friend was going to postpone the rest of our trip till morning, so said :

"Is this a good hotel to put up at?"

"Put up," he echoed, "why we'll be at Toms River by midnight."

"That's so late for the country," I feebly remonstrated.

"But I started late expressly to try the new reflectors," he responded.

Whereat he proceeded to light two enormous reflectors, that

threw out a positively murderous flame which scorched the brain and eyesight, explaining proudly as he did so, that there would be no more difficulty in seeing our way now that the rain had removed the dust nuisance and we had the light of our reflectors to travel by.

And, verily, we saw! The birds of the forest awoke and flung themselves against our lighthouses; horses broke loose from their harness and galloped madly away; men, women, and children fled shrieking across the fields to escape the light. And so, like primeval Gods we passed, shedding terror in our path, and the complete success of the reflectors was demonstrated to my friend's satisfaction who announced with ecstatic glee that they were "way ahead of a horn for clearing the road."

When we arrived at the goodly hotel with a clatter, at midnight, rousing all the inhabitants on the way (and having kept the rest of our party up till that hour awaiting us and fearing an accident), he enthusiastically announced that we had broken the record on road travel and expected to be congratulated!—but, as I said before, these motor fanatics are absolutely irresponsible.

Cramped, blinded, chilled and speechless, I was boosted from my seat, led into the warmth and pleasant dimness of the sun parlor that forms an introduction to the main part of the house, and left there to thaw out, while from below still was heard the motor-fiend leaking buckets of motor enthuse above a babel of friendly voices, checked only at short intervals suggestive of Jersey lightning and other liquid lubricants. But as an early start was planned for the hunters in the morning they soon dispersed to their rooms, and such quiet then reigned as only a country inn is capable of.

At early dawn the dogs and hunters proceeded by rail to the "happy hunting grounds," twenty miles out, chosen for the propitious stubble-fields in which the rag-time ragweed, whereon the quail doth feed, groweth abundantly. A little later with "Bob" to direct the expedition ("Bob" is that historical feature of the village by which, like "old Bill Jones," every doubtful statistic may be proved if only he is alive), we motored after them, bearing sundries to appease hunger and a mighty thirst. It was a typical gray November day—softly struggling between clouds and sunshine till noon, then closing down with thick banks of mist that finally oozed into raw rain at late afternoon.

En route, through the long stretches of heavy white sand—which is always "up to the hubs," as related by the motorist—and the resi-

nous odors of the pines which are the unvarying, predominant characteristics of this part of Jersey, our chauffeur's ardor being necessarily abated by the heavy travelling; I was able to listen to the reminiscent scenes of "Bob," the pioneer mail-carrier of these regions: how he bore the news during the war between the two county seats, straight through the forests when the trail was obliterated by snow-drifts, blinded by storm and wind, yet never missing a trip; and how, in the days of the early settlers in Ocean and Monmouth counties, in which parts Bob has always lived—and will die, if he has any voice in the matter—his forefathers buried their household goods, fearing the Hessians who harried these Dutch progenitors of the present inhabitants of Jersey; and many other historical incidents in which the memory of "Bob" revels abundantly. His is a soul which can no more lose its way to Heaven eventually than can his feet lose theirs on the roads of Jersey, which know him as their pilot. Everything along the route speaks to him of apple-jack. He stakes his reputation on this native liquid, and as he never had a headache in all his bibulous life, it's very probable Adam's consort knew what she was doing when she accepted that Jersey apple; so she fooled her liege lord, after all, and has done so ever since, till she asserted her "rights" and ate apples openly. Now, 'e knows she knows and watches out for 'er.

In the midst of one of our guide's most earnest discourses we rounded a turn from the wood-road we had been following, out on to the highway, and came upon our party bivouacking by the roadside round a camp-fire of pine branches that threw out a shower of sparks and balmy odors, while on the bank above rested the faithful dogs, Cy and George, with the guns stacked beside them. As we drew up with a flourish I heard "young Sawyer" say, with his stage-hero expression:—"and he weighed 1600 pounds without his pelt." By these tokens I knew they had been swapping bear stories and that this erst-while mighty hunter of the West had brought out his Sunday story with its "best bib and tucker," and was on his mettle, for he never produces his 1600 pound bear when a smaller one will do, being naturally of a saving disposition. I wonder why a man is always "out-for-bar" in his mind, no matter how small the game he's after in reality?

Sometimes it takes a kaleidoscope to follow Sawyer's fertile imagination in the hunting field, but as I have heard him tell this particular story several times and he never deviates from the original



plan I'll go bail for it, and it is really worth repeating. He generally tells it standing up and leaning on his gun, because it seems more impressive that way, and this is how he begins:

"We were walking up the shady side of a gulch (this story is located on Mt. Graylock in Idaho) when, in the middle of a berry patch about 300 yards distant, we discovered a large bear feeding on blueberries." He has already explained to his listeners that "we" includes a young Britisher who had been sent out to America by his parents to rough it in the mining districts, and incidentally, to prospect a little, and who, having besieged Sawyer a long while to show him a bear-hunt, was now being gratified. "Bruin's method of gathering the succulent berry," continues the historian, "was expeditious and accomplished by enclosing the complete patch in one of his huge, encircling arms and then mowing a long swath of leaves and berries with one swoop of his rough tongue, grunting as he did so with evident relish. 'By gad!' said the noble young Briton when he saw his game, and proceeded to make ready. I loosened a shell in my belt, gave the word, and we shot together. When the smoke rolled up the bear was rolling over, turning and snapping at his shoulder where one of the bullets had hit him (here "young Sawyer" looks modest and we all presume it was *his* bullet). A second round, and yet a third before Bruin discovered his enemies, then he lowered his head and came for us with his seemingly awkward gate, that covers ground faster than a horse can travel. I think my friend from England stood his ground for two more shots, none of which stayed the bear for more than an instant, who fell, rose again and came on with renewed fury. At length, when from the size of a Newfoundland dog, as he appeared when we first sighted him, he had assumed the proportions of the side of a barn, and, rearing on his hind quarters, lunged closer and closer, the Englishman dropped his gun and, with a yell that would have startled an Apache Indian, ran for shelter. Within 20 yards he encountered a young fir tree and started to climb it. Up he went, but reaching the top before he felt he was out of harm's way, he attempted to climb on, clawed space for an instant—supported by faith only—fell through the branches and immediately started to climb up again, evidently with the impression that he had steered straight for heaven during both laps, yelling as he went. Meanwhile Bruin lay dead within 40 feet of him, with 19 holes in his body; but it was over half an hour before the young man could stand unassisted or lift his gun. And the bear weighed 1600 pounds with-

out his pelt." Here Sawyer picks up his gun and walks away, but shortly returns to the circle to see if anyone is telling a better story. All good hunters believe their own stories.

Mid the cackle of lunch and good cheer I discovered that quail was shy and the outlook poor for the afternoon, if the forenoon was an accepted precedent, for the game bags were mostly hollow of results, and Ewert, who never looked handsomer or more truly hunteresque, wore a Christian martyr expression that hinted of trauduced hopes. The resident member of the "Rod and Gun Club" eyed the landscape gloomily and the promised game dinner dwindled



"Clawed Space an Instant"

to a possibility of the one red-headed duck which was said to be reposing beside a cotton-tail in the ice-box at our hostelry.

But directly in front of the improvised camp was a particularly fine range of field which had been selected for first experiments so, after finishing our lunch and making everything snug in the motor, we left "Bob" in charge of it, went over the fence and started the dogs.

The preceding months, which had been almost rainless, had left the ground so dry that the birds seemed to leave no scent, as witness a peculiar incident that occurred at the start: in the middle of the first field a single quail had run out of the woods, and had crossed and recrossed his own trail many times, seemingly more intent on showing how far he could run in a given time than on feeding. The old dog scented him first, cautiously took a few steps and straightened out with a marvellous rigidity of point that was pretty to behold; Cy immediately came up, ran ahead of him, made a semi-circle and also came to point. Then the men walked up in line, urging on the dogs who took a few steps forward and pointed again, in exactly the opposite direction; and these tactics were repeated so often and so suddenly that I thought they were like to cause my destruction eventually, for I was so bundled up in my motor togs that such rapid evolutions were beyond me, and if I was not picked off finally by one of the shots I lay it to the fact that as they flushed their bird, after five minutes of this right-about-face business, I tripped on a blackberry-trailer and fell flat in the briers just as they shot, letting out a squawk of dismay that convinced them I was not killed, though my face looked like the map of Asia when they had assisted me to rise. And someone was mean enough to accuse me of being a "paper sport," because I was knocked out by a brier!

More fields, brown, dry and brambly—and a pretty covey of about twenty birds flushed a trifle wild and went scaling off into the swamp; on this the hunters ingloriously missed their easiest shot, with their first barrel, but redeemed themselves with the second—and broiled quail seemed to me really imminent at last. Though they followed up this covey through the brush, only one more fell a victim, and this, after they covered a space of fifty feet, inch by inch, was discovered flattened out on the ground right at their feet, neither dog having been able to scent him. Nothing was left of this poor cock bird but his head and shoulders hung up on a low limb, after Ewert's shot, and it was unanimously decided that, by every showing of circum-



stantial evidence, he must have been shot on the ground with a charge of No. 2 shot, though the gentleman advanced the time-honored excuse that he had not taken enough time to deliberate and had shot his choke-barrel, etc., etc.

Two more fields were drawn—barren ; old George was showing signs of fatigue, hanging up on the top rails of the high fences in helplessly pathetic fashion as he attempted to leap them, and we were about considering a return to the motor when the warning honk of a wild goose arrested our attention. Directly over us was passing a flock of fifty-odd birds, coming down ahead of the storm which they seemed to have brought with them, for, as the last of the V-shaped line disappeared in the thickening mist-clouds, our upturned faces were wet with the falling damp which had formulated into splashing drops at last. We retraced our steps to where “Bob” awaited us with the serenity that nothing dampened ; for had he not his inner coating of good, warm apple-jack always with him ?

As it was but  $2\frac{1}{2}$  miles to a station we motored over and took train from there—all but “Bob” and the chauffeur—the rain settling down heavily and determinedly.

All that night the wind gouged great chasms out of the darkness, and the rain deluged through this historical village of “every-day’ll-be-Sunday-by-and-by” atmosphere which reeks with the saline odors of the new-laid oyster that is native to Barnegat; and when morning disclosed the results, Tom’s River, from which the place takes its name, was found to have encroached to the very roots of the hotel, and no such high tide had been seen for 20 years. I rose early and descended on a scene of wild excitement. The dogs had been nearly drowned in their kennels, likewise the rest of the barn-yard contingency, and “Pete,” the famous decoy goose of these regions, known for miles about, had not where to lay his webbed feet, except in the water, which state of affairs had so terrified him that for half the day he forgot to honk when his wild kindred flew over him, though he never failed to keep his left eye cocked heavenwards as usual. Till the weather should settle and the roads dry up somewhat it was not considered wise to start on our return trip by motor, so we patiently bided the “game dinner” that was to reward us for our efforts of the day previous.

Now I’ve heard of some strange dishes, and partaken of many, but I never met a real tragedy in culinary art till I sat down to that much anticipated repast and encountered quail soaked in sour

milk for twenty-four hours previous to boiling!—and one's own hard-earned quail at that. But this was "Fraulein's" painful manner of cooking them—likewise the red-head, only he seemed to have suffered more than the quail and died a harder death, having been immersed in this Anna Held bath for four days! Then they were all boiled to rags and tasted like so much boiled calico, as far as any distinctive flavor was concerned. I didn't dare shut my eyes once for fear I should forget what I was eating. And I thought of "The Shut-Eye Sentry"—and mentally parodied it somewhat after this fashion:

*Then it was "Rags! What, rags?" this dish in the German style,  
'E's done to a mussy hash, but, boarder, shut your eye,  
An' it's "Pass! Wot t'ell!" Oh, ain't e' sozzled vile!  
'E needs an affidavit—this poor culinary guy.*

Thus sadly ended this idyl of the brown November quail and here, too, ended the motor trip for me, as by noon rumors of bridges swept away by the violence of the gale, and damage done all along the road, reached us in such convincing form that some days' delay seemed probable and I regretfully returned to the city by train that night—*very* regretfully, for after all, one taste of motoring begets a desire for another; and in this respect it differs most essentially from soused quail.

A. L.

For . . there's only one sport in this world for me ;  
Only one thing has my sympathy.  
Though officers are snippy  
And gasoline is drippy  
Yet . . there's only one sport in this world for me :

## Existing Automobile Mechanism

By HIRAM PERCY MAXIM

PURSUANT to the program as outlined by Joseph M. Hill, Chairman of the House Committee of the Automobile Club of America, the third lecture for the season was held in the club rooms Tuesday evening, December 31, the subject being "The Automobile as it Exists To-day." The lecturer was that eminent engineer of the Westinghouse Electric Company of Pittsburg, Hiram Percy Maxim, who for some years up to last spring was connected with the Electric Vehicle Co. Mr. Maxim's words follow :

I feel that the present is a most important time for the American automobile engineer to do a little talking. The signs are pointing to the rapid approach of the critical period in the development of our American automobile industry. Whether we will repeat the performance we made with the steam locomotive and the electric street car, with our automobile, or will let some other nation do it for us, will soon be determined. It seems to me, therefore, that the engineer ought to do all in his power to assist toward a general understanding without prejudice of the practical possibilities and limitations of the more important automobile apparatus.

The two pieces of automobile apparatus which seem to me to be the most important are the automobile gasoline engine, and the automobile electric storage battery. A thorough consideration of either is, of course, a thing of some magnitude, and would take far more time than we would be able to devote in one evening. A very general consideration only, however, is better than none at all.

From both a commercial and an engineering standpoint the gasoline engine has some very alluring peculiarities. It is a prime mover, able to use a fuel which is cheap, liquid, easily handled, and universally obtainable ; it ought to be able to produce a horse power hour\* out of less fuel than any other prime mover known ; it ought to consume no other supply than this fuel, barring, of course, lubricating oil, which is negligible ; it ought to be independent of any temperature or climatic conditions ; it ought to be able to be started and put

\*Lifting 33,000 pounds 1 foot high in 1 minute and do it for 1 hour.



into service with less preparation than any other prime mover yet produced, and it ought to be entirely automatic, and require no consideration while running.

It has two inherent disadvantages. It cannot start under load, and it cannot be overloaded. The first means the necessity for a disconnecting device in order that it may be separated from its load while being started. The second means a change gear apparatus so that abnormal torques can be obtained by taking part of the speed to get them.

Now let us see how this piece of apparatus has worked out in practice. Instead of living up to our expectations, it has given us an enormous amount of trouble. It has behaved in the past so abominably that even public attention has been attracted to it. Some of its performances have been such as to cause another prime mover to be developed, to step in, and, as it were, come to the rescue in spite of inferior inherent characteristics for automobile service. In many cases capital has been seriously discouraged. The public at large, excepting perhaps those in our large Eastern cities, where automobile education is on a broader plane, stand prejudiced against it.

Now, why has all this been the case, and what are we to expect in the future?

“In my opinion, we Americans, as a whole, have ourselves to blame. We have been in too great a hurry, have been too confident, too anxious to be radical and apply our far famed American cheapening methods, and have not sufficiently digested what has been done by those who have fully ten years the start of us.

But now, whether these are or are not the correct excuses, it is all ancient history, and we are concerned only by the present and future. Our recent automobile show makes a good point from which to judge afresh. We found by it that in spite of the past the gasoline engine dominated in number and improvement every other form of motive power. We found that the painful exhibitions of the past were entirely lacking. We found that men no longer stood before a piece of apparatus too grotesque even to deceive the unmechanical public and proclaimed its virtues while the machine contradicted every word uttered. Noise, jar, complications, necessity for mechanical dexterity, all perhaps illegitimate from an engineering standpoint, yet vital objections, so far as the public were concerned, had been reduced as if by magic. American simplicity had asserted itself more conservatively, and on a sounder basis, the experience of Europe was

more carefully and less sentimentally considered—had been adopted where good and rejected where bad or unsuitable—and scientific analysis and study of past troublesome details were evident on all sides. In other words, the American engineer and mechanic had seen the errors in his gasoline automobile engine and was proceeding in true American style to correct them and make up for lost time.

In the majority of the gasoline automobiles exhibited at our recent show in Madison Square Garden, and in others I know of, water cooling apparatus is in use which requires less than 25 pounds of water to be



Percy Owen in his 12 H. P. Winton

carried for runs of several hundred miles in length. Moreover, by the addition of enough chloride of calcium to give 50 per cent. saturated solution, this water is rendered unfreezable, and therefore stands independent of any temperature condition. Surely the other prime motor, steam, must envy the gasoline engine these features.

In all of our latest American vehicles the water cooling apparatus is also very similar. The circulation is forced by means of a gear, or centrifugal and consequently valveless pump. The latter is gear-driven and of moderate speed, instead of friction driven and of very high

speed, as in European vehicles, and is consequently, as certain and sure as a piece of mechanism can be. It is frequently attached to, and is virtually a part of the engine, although easily removed bodily in case of need. The cooling is usually accomplished in strong coils built in a frame and contained in the bonnet, where they are protected from injury and form an eminently practicable piece of apparatus.

And now for the other supply, a very troublesome one of the past, and one which brings up some very vital questions, the igniting current.

In the latest and best engines, both here and in Europe, the ignition is electrical, and the current obtained from a small electric generator run from the engine. This of course removes the igniting current from the list of supplies, and by so doing has avoided the treacherous primary battery and inconvenience attendant upon the necessity for recharging a secondary battery, and has generally effected a very considerable improvement. But in the majority of cases the thing has not seemed to have been thoroughly done.

One of the basic requirements of the reliable gasoline engine is certain ignition. In the majority of our machines the method of driving the generator is by friction wheel or belt, from surfaces difficult or impracticable to keep in suitable condition. This in itself I cannot believe to be reliable. Then again, in many cases magneto generators are used, or generators having permanent steel magnets for fields, and these are located in close proximity to highly heated surfaces. In other kinds of work a similar arrangement has had to be discarded, owing to the deteriorating effect of even relatively moderate temperatures upon the permanent magnets. That this promises also to follow in our automobile magneto generators seems to me therefore to be probable.

In other particulars, however, I think we have reached a very practical and reliable development of the igniter current-producing apparatus. For instance, we have the governor clutch on the generators so that even where they are geared up high enough to insure a speed which will give sure ignition at the lowest engine speeds, they are not permitted by these governors on very high engine speeds, to run to a point injurious to the sparking contacts or generator bearings.

Again, on the best examples provision is made in a practical manner for starting. A small dry battery is usually switched in for this and switched out when the engine has been started and has attained enough speed to enable the generator to generate.



On the whole then, it would seem that in the supply of current for ignition in our latest American machines we might be open to criticism only in the method of driving our generators and in the use of permanent magnet fields. Neither of these troubles is difficult to correct.

Concerning the actual spark-producing apparatus, as it exists, it may be said that we have two systems in use—the secondary or jump arc, and the primary or mechanically drawn arc.

The former is undeniably delicate, complex and costly. On a single cylinder engine it is bad ; but as the number of cylinders go up,



A New White Steam Carriage

it gets rapidly worse. Just the same, it is the system most in use. I believe the principal reason for this is that it is suitable for extremely high engine speeds.

The latter form of primary is simple *per se* but complicated mechanically when we attempt to advance or retard the timing of the spark in order to meet widely varying engine speeds. It is also troublesome in many of our engines through the burning away of the sparking points causing unreliability.

Therefore, it does not seem to me that the secondary system will

ever give us the degree of practical reliability which is demanded, for instance, for utilitarian services. It can, and is, in thousands of cases, working to-day where pleasure only is involved ; but this is not all we want of our American gasoline engine.

In the case of the primary system, on the other hand, we are finding that the correction of other difficulties has a very favorable effect upon its difficulties. For instance, when we reduce the speed of our engine enough to give the parts a chance of reasonable depreciation and a reasonable length of life, and to reduce the noise also to a reasonable point, we find that there is less necessity for advancing and retarding a good healthy primary spark. Then if we go still farther and put the spark in the place in our explosion chamber which will favor the most rigid flame propagation, and also, if we draw our arc with a little more suddenness at the higher engine speeds than we do at the lower we find there is no necessity at all for advancing, especially if we put in a little surplus engine power and avoid continual demands for the maximum.

The burning away of the sparking contacts with this primary system has been a serious trouble, and is of course, in principle, bad, as the contacts are aiming continually at their own destruction. It is the same old question of wear, however, and if we give enough metal per unit of strain we can get a good life. It seems to me that by making our points generous and large, we will be glad to count upon a very small amount of uncertainty at this place.

On the whole, then, as regards spark-producing apparatus, it would seem that while we may still be open to criticism on the score of rigid certainty and reliability yet no one else is any better off.

And now about the inherent disadvantageous features of the gasoline engine—the inability to start itself under load and the inability to accept overload. These disadvantageous peculiarities have threatened the gasoline engine's automobile chances more than once in the past. Coupled with the faulty ignition and carburation, lack of sufficient power and bad mechanical constructions of the past, they have made a strong case against the engine, even in the eyes of many of its original supporters. Especially has this been the case in the eyes of the general public and the faint-hearted manufacturer.

That, in the face of it all, the engine has not been downed by steam and electricity, but has, instead, within the last few months assumed the aggressive, speaks for the superiority and the permanence of its principle.

The inability to start itself under load means a disconnecting device, so that it may be separated from its load. This appears in the form of a friction clutch. The inability to accept over-load requires alternative gear reductions, so that abnormal demands for torque can be met by driving through a greater gear reduction and at the sacrifice of a proportionate amount of speed. In both of these cases the development has been similar to the development of primary ignition. Other improvements have reduced the difficulties.

In our recent American machines we find the tendency to increase the number of cylinders and the horse-power per ton. This results in a surprising increase in flexibility of the engine. Where the cylinders are three in number, for instance, and of generous dimensions, we find it will slow down to surprisingly low speeds, and yet develop a perfectly smooth and regular rotating effort or torque. Where the maximum speed of the vehicle is intended to be moderate, say 30 miles per hour, we find that one gear reduction is used almost universally and that with one lower one, usually of about twice the reduction ratio, the engine is able to give all the torque that is necessary for the most extreme cases.

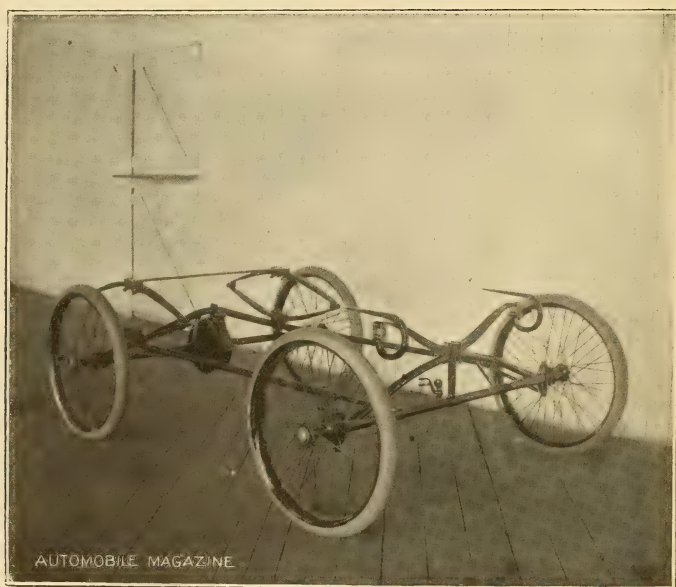
Again, instead of suffering from a great disadvantage because the engine is not reversible, it turns out that it is better that it is not, as we can keep our engine at speed in one direction and by engaging ahead or reverse gears, we can get with entire ease and convenience a smooth yet as vigorous acceleration as our tire traction will admit. This reduces the difficulty of the change gear problem very materially. For ordinary speeds and service only three gear changes are needed—one for extraordinary pulls, one for backing, and one for all normal running. The operation of the vehicle, moreover, becomes immensely simpler. Where high speeds are required, other gears must be added, but for all services up to 30 miles per hour, where there is more than one cylinder and the engine power is even but fairly generous, two gears ahead and one back can be proven adequate.

While it is a fact, that many of our American machines have two gears, it is not a fact that all of them have the engine proportions that ought to accompany it, and it is here that we stand most seriously open to criticism, as far as our change gear apparatus stands, in my opinion. In Europe the number of gears is usually three and four, the automobile having there a strictly high grade sporting office to fulfill, where speed becomes a prime factor. In such a case, number of gear changes, of course, becomes necessary. To show



that even with extreme speed, however, the number of gears is *yet* a question of proportions, one of the recent speed and hill-climbing winners in France has but one gear.

The friction clutch, the closely attendant adjunct to the change-gear apparatus, while a conventional piece of mechanism, has been the seat of a lot of errors and mistakes. Metal to metal surfaces, in the continual slipping necessary in ordinary street or road service, would grow rough, and either not let go, or seize, and grip viciously, and bring severe strains on the change gears. Lubrication has either been imperfect, impracticable or of no avail. In our most recent and



Geneva Running Gear

best machines we are, in my opinion, not yet over these troubles. Only in a few of them are the clutches made so as to be independent of lubrication, easily accessible, able to slip little or much, wear slowly, and yet not stick or grip viciously.

In Europe the cone clutch is most frequently used and has worked very satisfactorily, but has objections in the way of end thrust and fly-wheel effect, which does not promise well in utilitarian service.

In America we have shown a marked tendency toward the combining of the gear change and the friction clutch in one device, which

we have called a differential transmission gear. In it, the great claim is that there is no movement of any of the parts when in the normal gear position. We rarely see one, however, that has either a correct proportioning between normal and low gear, or the locking friction clutch, which has not all the old faults we know of in the past. In the case of the low gear it is almost always too low, making the step between it and the normal too great. In the case of the locking, or normal-gear clutch, it is usually one of the regular stationary types, which experience has proven is not satisfactory for the continual and graded slipping necessary in ordinary street service.

We frequently hear in rebuttal to this, that with a multiple-cylinder motor, the engine can be run so slowly that a slow enough vehicle speed can be obtained without letting out the clutch. In practice this does not turn out best, however, as to get quick acceleration after slowing down we need the inertia of the revolving fly-wheel to help pick up the load, and this cannot be obtained if the fly-wheel slows down *to too low a speed*.

This closes as much of a consideration of the apparatus of the recent automobile gasoline engines as we can afford in one evening. Of course, it is not complete without including such things as automatic lubricating apparatus, controlling systems, engine locations, accessibility and possibly, also vehicle frames. But they would take entirely too much time.

As a summary of the gasoline engine, I shall say, that taken as a whole and as indicated by what we have on the market to-day, it stands wanting *in ignition apparatus generally, in the proper proportioning of number of engine cylinders, engine horse-power and gear changes, in friction clutch constructions, and in not providing in ordinary machines intended for the public the automatic governor*.

As in the case of the gasoline engine the automobile storage battery has had a checkered career. In fact, I believe the automobile storage battery could give the gasoline engine points. But again, let us neglect all this past, and concern ourselves only with what we have to-day, and what we have a right to expect in the immediate future.

I believe there is generally more prejudice and less knowledge concerning the electric storage battery, and what it will honestly do, and what it really requires, than any other piece of automobile apparatus that is one-half as much used. We continually hear broad and sweeping condemnation in one breath, and amazing claims of mileages and capacities per unit of weight in the next. As a matter of fact, the gen-

eral lack of knowledge concerning the storage battery has caused, and is causing it to suffer just the same as has been the case with the gasoline engine.

In the beginning, the lack of knowledge of its necessities and care, even on the part of the manufacturers, caused it to turn out in



Grout Steam Carriage

practice just about as far from what we originally had the right to expect as anything could. But again, notwithstanding all this and addition of the public prejudice added, the many extraordinarily advantageous features of the system of which it was a part prevented its being kept down. To-day we have in it a piece of apparatus which,



far from perfect, yet possesses possibilities which compel its consideration.

As an example, the best automobile storage battery we could buy three years ago had a maximum capacity at a certain discharge rate of  $2\frac{1}{2}$  ampere hours per pound of complete cell. That meant that with a vehicle of the same style and general characteristics then demanded the maximum weight of battery that it was practical to put into it, could not in every day service be counted upon to average more than 20 miles on one charge. It had, where it could be treated individually, and with skill and understanding, relatively few ailments, and could be counted upon to have a life of about 100 vehicle discharges before losing 50 per cent. of its original capacity.

To-day, barring patents, we can buy batteries which have a capacity at the same discharge rate per pound as before, of  $4\frac{1}{2}$  to 5 ampere hours per pound of complete cell.

This means that twice the mileage is to-day obtainable, in the same vehicle and with the same weight of battery. But what is more important, the positive plates of these batteries (which are the minimum life factor) will give, where certain well understood and easily avoided abuses are not practised, a life of at least 125 complete vehicle discharges, without losing any of their original capacity. Taken as 40 miles per discharge, this is 5,000 service miles that the storage battery of the best type of to-day can be absolutely counted upon to give.

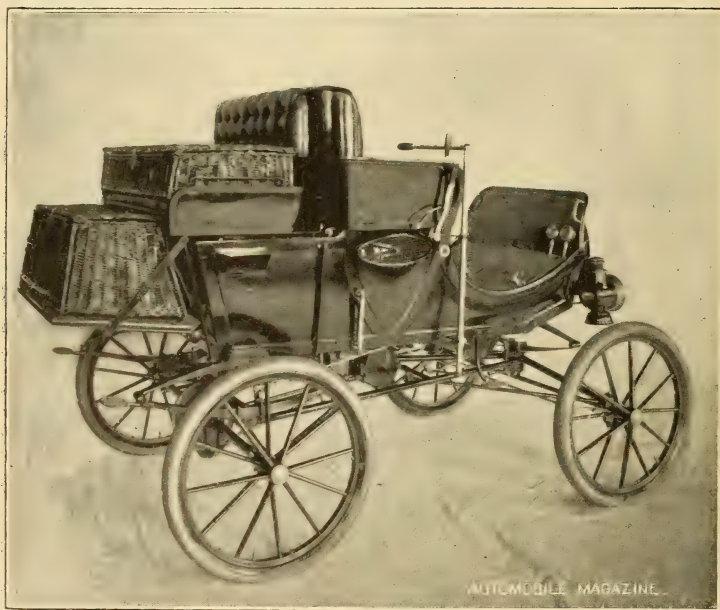
When we look for the causes of this improvement we find satisfactory and reasonable ones. The battery plates are made with many times more active material upon them. They are provided with separators, which not only give plate separation, but form a veritable lock for the active material, absolutely preventing its escape from its plate.

The plates and these separators and many details about the jar, are carefully proportioned so as to ensure that the combined element, when it is in place, forms a solid, self-supporting structure. Except by the most violent formation of gas is it conceivable that any of the active material can get away from the plates.

As an instance of the effectiveness of this construction, which is becoming common in all the best types of pasted batteries, I have seen several of them after the completion of the 100th discharge. The separators were actually an integral part of the plates. They could not be removed without taking the active material off in large sections. This certainly made it seem evident that one of the most serious diffi-

culties in past batteries has, in these latest types of storage batteries been permanently overcome.

The constructional features of the grids do not seem to affect, to any material extent, the capacity per pound, provided they do not present an unnecessary amount of dead rot. It does affect the life, however, as if the positive grid is so arranged as to leave important parts too much exposed to oxidizing action, they are soon weakened enough to break, lose conductivity, and suffer permanent and serious reduction in capacity.



Convertible Dos-a-dos and Touring Steamobile

The separators, which seem to me to be chiefly responsible for the increased practicability of the recent storage battery, are usually made, in all of the different types, of thin wood. They are cheap, porous, very slowly affected by acid, and when made with small vertical ribs, furnish the necessary separation for acid space between the plates, and furnish an admirable surface for holding the active material closely against the grids.

This, of course, as far as it goes, promises us practical results. But nevertheless, even *with* all these, and the many small detail im-

provements, which we have not time to consider here, our automobile storage battery is still *wanting*, if it is open to injury by ignorance or carelessness in charging, the place where most of the injury of the past has been caused. Violent overcharging would burst off anything.

We find upon looking that this point has been met by the automatic charging outfit, which has appeared recently on the market. It is provided with a resistance, marked to suit the different standard makes of electric automobiles and when used in conjunction with suitable current, automatically sets a *rate*, which is safe. Then, when the voltage across the battery terminals indicates that the maximum safe *amount* of charge has been given, it automatically cuts out.

Our batteries thus, either in the owner's stable or in a garage, need no longer be dependent upon the watchfulness and knowledge of an attendant for their correct charging. Our past experiences have proven that this cannot but have a most advantageous effect, and still further add to the practicability of our automobile storage battery.

There seems to be every reason, therefore, for believing, which I do, that our present automobile storage battery, as our manufacturers know how to produce it and to protect it to-day, is, even in untrained hands, as practical a piece of automobile apparatus as we have before us. And it is the American engineer who has made it so.

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When Proctor's Theatre, Newark, was dedicated on January 6, the seventh theatre was added to the influential and prosperous Proctor Circuit. The policy of presenting high class vaudeville will be maintained in Newark, and the best attractions money can procure will be presented weekly. Two performances will be given daily, popular prices will prevail, and the new theatre has taken its place as Newark's leading family resort. The house has been built for Manager Proctor at an expense of \$250,000, and is admittedly one of the handsomest and most complete vaudeville theatres in America.



## A Non-Freezing Cooling Liquid

ONE of the annoyances of water-cooled gasoline motors is the possibility, if not probability, of the circulating water freezing in cold weather if the machine is left standing. On this account it is often necessary to let the motor run when otherwise it could be stopped, saving both gasoline and annoyance to others in the vicinity. Glycerine and other solutions have been recommended, but they have been considered as experiments and have not been generally adopted.

The Merrimac Chemical Company, 75 Broad Street, Boston, are making a solution of calcium chloride which will not freeze at zero and only boil at 225 degrees. This would seem to cover all the ranges of temperature which automobilists are likely to encounter. This solution is furnished ready to use without being diluted, but all evaporation is to be replaced by water. It should not be allowed to evaporate to less than  $\frac{2}{3}$  its original volume on account of becoming too concentrated. Any loss by leakage should be replaced by fresh solution.

This solution cannot be used for steam carriages, and the manufacturers also call attention to the fact that, as the corrosion of aluminum is increased by the presence of chlorides, it is necessary to carefully watch its action when employed in connection with parts which contain aluminum. It would seem as though this should be very popular with users of gasoline machines during the winter months.

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Nothing that has ever been devised comes anywhere near being as suitable for traction purposes as the electric motor. It is able to start under any load, able to accept any over-load up to the point of actually burning up, of ideal mechanical simplicity and suitability for connection to the driving wheels of a vehicle, absolutely automatic in its running, and independent of any consideration, preparation, mechanical knowledge, or skill on the part of the driver of the vehicle it propels other than that necessary to guide it.

A decorative border of small, repeating floral motifs surrounds the title and author information.

# Seen and Heard

By the "Senator"

## SPEED MACHINES

THE building of speed machines promises to be quite epidemic and the poor record will have a hard time of it in trying to elude the men who believe that 35 seconds is not impossible for the mile. The wide publicity given to record trials in the past may be toned down somewhat in the future, judging from what the business manager of a big New York daily told me recently. There is an impression in the business offices of the leading New York dailies, and the subject was up for discussion the other day at the Press Club, that the making of these records is purely free advertising sought after and got by the manufacturers of automobiles, and the aforesaid astute business managers propose to put a stop to some of it unless their business columns show corresponding encouragement. The same thing occurred in the early bicycle days and it was a lesson in free advertising to the newspapers. The time came when the mention of the make of a bicycle was as rare as swans in winter. But this need not discourage the record-breaker. He can make use of his records in the much abused trade journal, besides using them in a legitimate way in his advertisements, circulars, etc.

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## SPEED LAWS

The disregard of speed laws, especially in New York, and the continued violation of same, has started the New York dailies writing editorials against the practice, and the eminently respectable and conservative *New York Times*, which is a good paper, advocates imprisonment for the reckless chauffeur. It might be well if the culprits were warned, say for the first time, fined for the second and put in limbo for the third, as that is the only way we can prevent a certain uprising against the automobile by the people. Of course, there are some

excuses to be made at the breaking of the speed rule at certain times, but there is no excuse or palliation for the man who makes a practice of racing through the streets and giving the policeman what he calls "a run for his money." Imprisonment, I think, would about fit the case, and the Automobile Club of America might do a worse thing than advocate the jailing of a willful and persistent violator of the speed law in cities. If this is not done the newspapers may work up a crusade against the automobile and the trade and sport will suffer accordingly.

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#### SPEED IN PHILADELPHIA

Speaking of speed, I was walking along North Broad Street, Philadelphia recently, when a steam carriage came bounding along at fully twenty-five miles an hour, and this speed is not exaggerated by any means, as I have done a few thousand miles myself against a watch and in races where the bicycle was my pony. Noting the pace and remembering that the speed limit in the alleged slow town was under twelve, I crossed over to where a Quaker City "bobby" was standing (who had duly taken notice of the racing chauffeur through the corner of one eye, with his head inclined after the fast receding automobile). I said to him, "What is the speed limit in Philadelphia?" and he said, "Eleven miles, or rather from eight to eleven, according to location." "Well," I returned, "what do you think of that speed," indicating the flying aforesaid racer, "I suppose you wink at that?" "Well, yes;" the preserver of the speed limit replied, "especially on a street like this which is broad and asphalted. My observation has taught me that the average automobilist can avoid accidents owing to the width of the street and the quickness with which they stop. Why," continued he, "the other day an automobile with two men in it came dashing down this street at about thirty miles an hour. A woman started to run across the street, and not wishing to risk a collision, the driver of that automobile jammed on the brake, reversed his power and came to a stop within twenty yards, but the stop was so sudden that the man who sat alongside of the driver was pitched headlong out in the street. The woman escaped. As a rule, however," concluded the Quaker City peace preserver, "I prefer to see a moderate speed and think it will be for the best interests of the automobile business and sport, if the chauffeurs will at least curb their speed proclivities in cities, especially where there is a lot of traffic.



## AUTOMOBILE AGENTS

The automobile agent is having his troubles and does not know exactly "where he is at." The writer has met several agents the past few weeks and they are more or less dissatisfied with their treatment at the hands of certain manufacturers. One particular manufacturer of the West, whose machine is having an undoubted boom, perma-



Indian—"Ugh! Me got heap bad pipe dream "

nently, I hope, has quoted a price to all comers, which leaves the agents a very narrow margin. This particular machine has been selling at \$600, and the net price to small dealers, I believe, is within \$30 of that amount, but deducting from that small margin the price of crating and shipping, the net profit to the agent is somewhat less than \$25 per machine. Considering that the agent is the man who will have to bear the troubles of the buyer, and will of course report all little defects, and undertake to have them set right—he naturally believes that a little more discount should be allowed him, if he takes trouble from the shoulders of the manufacturer. The latter should be glad to have some one take the many little difficulties off his hands, and who is more able to do this than the local agent who is on the spot? With this arrangement of affairs the buyer need not wait for word from the factory to obtain information regarding his automobile.

It seems to me that the agent will be a necessity in selling automobiles, and the buyer will trust the local representative to see that he receives fair treatment and general satisfaction in his purchase. In other words, the agent is the one who is expected to "make good," and not the manufacturer—the customer considering him secondary in importance, compared with the one to whom he gives the order.

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#### GASOLINE TROUBLES

Many trivial things occur which are not much in themselves, but they need attention. I have heard many good stories recently regarding same. One especially that was told me by James S. Holmes, Jr., of the Remington Automobile Co., of Utica, who relates about shipping a gasoline machine to Atlanta, Ga., and his consequent trouble. It seems that Mr. Holmes was very careful that this machine was in "apple-pie order," and as nearly "fool-proof" as possible before leaving the factory, because the distance was great. The machine duly arrived in Atlanta, and the enthusiastic purchaser immediately wrote a letter that this particular Remington was a "daisy," and like "good wine needed no bush." A week later, however, he wrote that while the machine was a good thing to look at, it was absolutely worthless, as he had almost worn his arm off trying to start it. This naturally puzzled the genial Holmes, who wrote everything he could think of about this machine and its construction, but correspondence about the trouble lasting nearly a month, he was getting desperate, and thought he would have to go to Atlanta to set the matter right. One evening he had returned to his factory from a trip, and there waded into a four page letter from Atlanta, damning both him and the machine, and said that it had not run a mile in three weeks. Mr. Holmes sat down and in the absence of his stenographer, wrote a pen letter, going over the machine in detail again, and at the bottom of that letter a thought occurred to him to put a foot-note as follows: "Are you sure that your gasoline is all right, and that it is 76 degree test? Go out and get a hydrometer and test it." In three days, along came a telegram: "Machine all right, see letter just mailed." The letter stated that the local gasoline dealer had sold him kerosene by mistake, and that he had just returned from a 30-mile trip, and that the machine could not be bought for \$3,500 unless he could get another one. An agent on the spot would be able to attend to such little troubles, and the manufacturer who wishes to see that his goods get fair treatment should also make up his mind to treat the agent

fairly if not liberally. Mr. Holmes believes in the dealer and will give him good treatment.

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#### MOTOR BICYCLES

The motor bicycle will not down, but it certainly has had its ups and downs and cannot yet be said to have hitched on to public opinion as favorably as the few makers would desire. It is the opinion of the more recent manufacturers who have undertaken to make motor bicycles, that a good deal of the lack of interest in this machine can be charged up to the imperfections of the earlier motor bicycle. In other words, there was more trouble with the motor bicycle to make it go than there has been with some of the automobiles, and that is saying a lot. It is the opinion, however, of good judges that the motor bicycle has come to stay, and that the "motor that motes" will have a good run for its money. It was suggested to the writer by Harry Dunn, of the Fisk Type Company, that the bicycle could be used by travelers who had no samples to carry and that they would save money and time by using the motor bicycle to make their calls, especially in the small towns where the jumps are not too large. It would not only be a saving of mileage on the railroads, but it would also save street car fare and the traveler can go right to the door of the firm he wishes to call on and there will be no waiting for trains or street cars. The motor bicycle will be a compromise where the man cannot buy an automobile, and besides, Mr. Dunn points out the fact that the average buyer who would wish an automobile cannot store one, especially if he lives in a flat. The motor bicycle would save storage, to say nothing of repairs to him, so I shall certainly expect to see a revival and a stable business in these machines, and it will not be surprising if 1902 will commence what will be satisfactory sales of the little "choo-choo."

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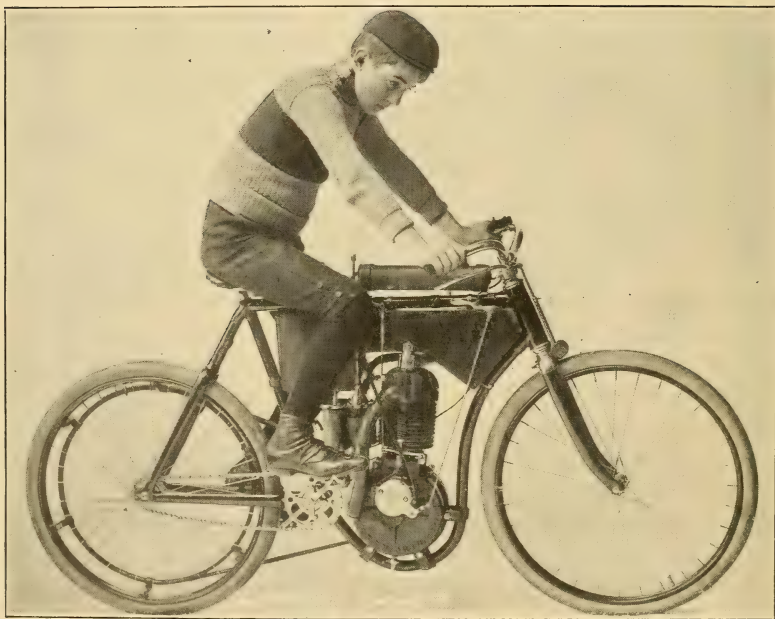
#### PARKIN MOTOR

Speaking of motor bicycles, reminds me to say a good word for the Parkin motor bicycle, which is built in Philadelphia, and which has done so well as the record creator, with Young Master Parkin, who commenced when he was 11 years old to manipulate a motor bicycle. He is now only 13, and I give his picture herewith, which was taken in Philadelphia after he had made a clean sweep of some records. To understand the speed this 2 $\frac{1}{4}$  H. P. motor



makes, it is only necessary to say that he was recently timed a mile in 58 seconds, and Mr. Parkin, the manufacturer, states that the motor is capable of 50 miles per hour. The frame construction of the bicycle is a patented feature and is exceedingly strong.

One of the features of the motor is the long fin of the cylinder, which is longer than any other used for cooling purposes. Master Joe took part in the Madison Square Garden races recently, and surprised the old motor bicycle men by the speed he got out of the Parkin. It is the intention of the company to market quite a num-



Master Parkin on Motor Bicycle

ber of these motor bicycles and they have already sold many, which are said to be giving every satisfaction. They will also supply the motor for automobiles and other purposes. The company's factory is located on North Broad Street, Philadelphia, and the Parkin Motor Bicycle Company would be glad to forward their descriptive catalogue to all inquirers.

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#### TIRES

The matter of tires for automobiles is still one of the leading

questions and there is no doubt that there have been a great many improvements recently in automobile "shoeing." There is a pretty race on between the leading manufacturers for the business, and I hope to see still further rivalry, for the good will and patronage of the automobilist, among tire manufacturers. The Hartford Rubber Works Company are putting forth fine efforts to capture the leading position and have had quite a tussle with The Diamond Rubber Company in that respect. President L. D. Parker, of The Hartford Rubber Works, will bear watching, as he is most resourceful, has a splendid plant behind him and is handling his forces in the usual masterful style which this comparatively young man has developed. I have always been a believer in the Munger vehicle tire, especially for heavy work, and I trust to see shortly that Mr. Munger has completed his preparations for placing the same on the market in large quantities and that a tire suitable for light machines will also be included in the "bill of fare." The New York Belting & Packing Co. have undoubtedly made good progress, and as this tire is practically puncture proof, it should be in vogue and I hope that Mr. Hayes, the tire manager of the establishment, will be fully repaid for the hard work he has done in the past.

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### A Handy Pipe Wrench

THE wrench here illustrated should prove a handy tool to any automobilist who has slight repairs to make on the road—and who has not? It will take any size pipe, bolt or nut from  $\frac{1}{4}$  inch up to  $\frac{3}{4}$  inch in diameter, and as it weighs only 8 ounces and



Mossberg Eagle Wrench

is but 6 inches long, it can easily be carried. As will be seen it is always ready for anything within its capacity, so that the maker's claim that it will grip like a bull-dog but has the "let go" capacity as well, is true. It is made by the Frank Mossberg Co., Attleboro, Mass.

## America's Pioneer Automobile Clubhouse

THERE used to be a saying among wheelmen of Boston, in the old days of the bicycle's popularity, that all roads started from Copley Square. The saying is as true for automobiles as it was for bicycles, for the Square is the center of the asphalt district in town, and the terminus of most of the best routes out of town; and it is little wonder, then, that the members of the Massachusetts Automobile Club are deriving great satisfaction because their trim little brick and stone clubhouse is hardly more than a stone's throw from Copley Square, yet handy to the Boston Athletic Association, the Hotel Lenox, and just a step or two from the various Back Bay hotels and clubs. Although Boylston Street on the stretch from Dartmouth Street to Massachusetts Avenue is traversed by two car tracks and is not yet coated with the blessed asphalt, it is a main street and is good enough, and the clubhouse, though it looks out over the tracks of the Boston & Albany Railroad to the big Mechanics' Building and the apartment houses of Huntington Avenue, gains in light and sunshine and its interior is thereby more attractive.

One might think members would go to the club house chiefly to look after the automobiles. Perhaps they do. But there is a strong social side to the club, and if this feature is as pleasantly in evidence in the future as it was on the evening of the house-warming, January 1, the club will surely be successful. There were almost 300 members and friends who spent all or part of the evening in the rooms on that occasion—enough of them to put life into the hitherto tenantless interior. Those who had not been into the building before were well pleased with what they saw and were not reluctant in saying so.

It was in the social rooms occupying the entire second floor where the affair centered. These are reached by a separate doorway at the street level and a single stairway. From the landing, one steps into the middle room of three, a large one with seductive easy chairs everywhere, with library tables, low hanging lights, and walls of a soft, deep green. The corner near the door is taken up with the steward's counter, where cigars are supplied, and the registry book for visitors and others is kept. Opening forward from this room another large, square apartment, decorated in harmonious tints, serves as a drawing room. Its three large windows look out on Boylston Street, and its



large, open fireplace at the right invites to a cosy chat or discussion. The tables in both rooms are supplied with periodicals and the leading automobile journals and magazines, while on the walls are photographs or prints of famous automobiles, past and present, including the famous print of the original automobile stage-coach, which was inherited by the joint organization from the old Automobile Club of



Massachusetts Automobile Club's New Quarters

New England. The third room of the three is a handsome little apartment in red and white, fitted with small tables for four persons each, as the club café, a little narrower than the other rooms to allow space for a small kitchen at the same level. All the rooms are finished in hard wood and have hard wood floors.

On the ground floor the entire space is given up to the storage

of automobiles. The ceiling is of hard wood, the sides of plaster, and the floor of cement. There is room for fifteen carriages on each side with a broad aisle in the middle. At the rear is a large hydraulic elevator which will lower a carriage to the basement, for storage or repair; or by stopping half way between first floor and basement will allow an exit by special doorway to a narrow street in the rear of the house. If extensive repairs or machine work is needed, the carriage may be lifted straight to the third floor, where the rear third of the building is fitted as a perfect machine-shop, with lathe, drill, and other machinery operated by a small electric motor attached to the city service wires. In the machine-shop, too, is a large tank for compressed air, connected by pipes with front and rear of the main stable at street level, so that tires or carriage tanks may be filled with air in a trice. The front part of the third floor is designed as an assembly hall. The washing floor is in front of the elevator at street level; the pit is in the middle of the same floor, covered usually with a metal shield; and the gasoline storage is in a pit of solid concrete, covered with metal, in front of and outside the building, but just inside the line of the public sidewalk.

On the evening of the house-warming the first floor and basement were filled with automobiles, some of them fine examples of the builder's art. One of the most notable rigs was a yellow autocar just received by A. W. Stedman, president of the old New England club. Another was the big Robinson car and the two handsome electrics of Charles J. Glidden, the club member who toured through England and France in a Napier last summer. There were Packards, Wintons, Whites, and one or two Locomobiles and Mobiles.

There was nothing formal about the affair. The only semblance to a reception was that the officers were everywhere, so far as they were able, explaining this and calling attention to that, in order that the features of the club's new home might appear at their best. The new governing board represents the leaders in both the old clubs which, two months or more ago, united under the present name. The board consists of Colonel James T. Soutter, president; Eliot C. Lee, first vice-president; Dr. Joseph C. Stedman, second vice-president; Royal R. Sheldon, treasurer; Dr. F. L. D. Rust, secretary. The governors are A. W. Stedman, Charles J. Glidden, George E. McQuesten, Henry Howard, J. Ransom Bridge, Newton Crane, Ernest L. Rueter, and Dr. W. A. Rolfe.

Since the house-warming the club has been gradually getting

settled in the new quarters. A superintendent, in charge of the mechanical and storage department, has two assistants and keeps carriages and the entire building in order. The members take a good deal of satisfaction in the thought that theirs is the first specially-constructed automobile clubhouse in the country.

O. L. STEVENS.

## Automobiles in Porto Rico

RECENT news from Porto Rico, where it is said some of the roads are eminently adapted for motoring, describes the advent of the first automobile in those parts as astonishing the natives to a point of speechless awe and wonder. Since its introduction there by Mr. Eisenbergh, four more machines of the same type (Locomobile) have been shipped to this same port at the order of Mr. Whipple.

It is stated that 150 or more, large, high-grade motors could easily be disposed of on the island, and this, coming from good authority, should at least command some deliberation on the part of manufacturers.



San Juan Military Bridge

One Of The Main Streets





A Typical Porto-Rican

For Sweet Charity's Sake

At present, transportation of the products of the soil is accomplished by carting and is thus expensive, so that producers would naturally welcome a line of automobiles for their use from San Juan to Ponce. And, as travel is now conducted there, the distance between these points requires 13 hours to cover it at an expense, per person, of \$6.00 for those journeying by mail-coach ; therefore it is thought by our correspondent that the mail contract could also be obtained by some enterprising automobile firm who would profit quite largely thereby since, steamship connections being inadequate, several hundred people are daily obliged to travel by coach over this route. All rates of travel are exorbitant and average \$2.00 or \$3.00 per hour, according to the conditions of the roads or spirit of the driver, who overcharges according to his own sweet will, and the presumable inclination of the rider to be regarded as an "easy proposition" by the Jehu.

This first automobile importation has been tried over all the nearby routes by Captain Tyndall and Mr. Eisenbergh and they seem to have had no difficulty in overcoming all obstacles that have presented themselves so far ; their next trip will be to Ponce by way of

the military road, which is 80 miles long and a fine highway without too steep grades for a motor to surmount readily. We shall hope to hear of the success of this trip by later communication.

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## A Chapter of Mishaps

By WILLIAM B. ROPER

A RECENT trip of mine had more mishaps to the mile—or hour would be better—than any I know of, and I would like to chronicle some of the events as they happened.

9 a. m.—Started for Fitchburg (from Worcester, Mass.) with 225 pounds of steam, everything going lovely.

9.15—Steam dropped to 75 pounds before I hardly knew it. Climbed out and found main burner out. Knew I'd filled gasoline tank—couldn't think what ailed it. Discovered that the automatic regulator didn't automat. Closed at 225 and didn't open again. Fixed it so it worked more freely, lit it and went on. Ten minutes lost and free amusement furnished about 8,000 people (more or less—probably less).

Everything went lovely through Barbers Crossing and Greendale, but at 9.45 couldn't see any water in gauge glass. Stopped, turned out fire and worked the auxiliary pump without any effect. Put a newspaper behind the glass and found it magnified the print, showing it was full of water. Was the boiler full also, or was one or both of the gauge-glass valves closed, preventing circulation in the glass? Forcing the valves open, the water level decides to establish itself about midway in the glass and all fears of a burnt boiler vanished. Five minutes gone—it is now 9.50.

Now comes a pull up to Summit, and as I start to drop down the other side the chain takes a notion that it needs a vacation and jumps a sprocket. Nice clean job putting it back, and of course there wasn't any waste to wipe my hands on.

10 a. m.—An hour from home—25 minutes of it spent "fixin' things," and a pair of dirty hands into the bargain. I wipe them on the grass as best I can and start again, after adjusting the stretcher or distance rod. Everything goes swimmingly, and I reach a house on

the outskirts of West Boylston, where I inveigle the good housewife into letting me into her kitchen to use hot water and strong soap to remove the effects of the chain's indisposition.

I renew my water supply at the trough in a shady spot between Cowee's mill (that was before the days of the great work on the Metropolitan reservoir) and Oakdale, and I suppose this was partly cause of my next mishap. I lifted out the top strainer to see how much water was in the tank, and in putting it back the strainer took a notion to have a Turkish bath and dropped into the tank. Water too hot to fish for it, and so I fill up without it as the water seems clear.

It's a beautiful ride along here and up over the hill past the Truant School, then down toward Sterling Junction, and I was so absorbed in the scenery that I didn't notice my water was gradually dropping. It was about 2 inches from the bottom when I did notice it. The by-pass valve was closed in a hurry and many anxious glances I gave it as we climbed the next hill. But it didn't gain—dropping slowly all the way up. Surely it would gain on the down grade when I wasn't using steam, but it didn't—going down instead. When the water said farewell to glass and sank out of sight, I stopped, climbed down and wondered what the matter could be.

Perhaps the pump was choked up or the check valves wouldn't hold—so I pumped up by hand and lo! the water waltzed up into the glass at an unheard-of rate. The auxiliary pump was doing double duty or I must be extra strong.

Lighting up my fire and feeling that this was an easy one, I was paralyzed to see the water disappear from the glass quicker than it came in. Out went the fire and another attack of hand pump brought it up into sight, but as a precaution I try the gauge-cocks and away goes the water again. A sudden inspiration revealed the fact that for some reason neither pump was getting any water. The water in the glass was simply what lay in the pipe between the pump and boiler. Working the pump simply forced air under water in the glass.

The pumps seemed all right so I concluded the tank-strainer must be stopped up—but how to get at it. The filling-hole was on the opposite side of the carriage (a brilliant idea on the part of the designer) and the water supply pipe chased itself into the tank in some mysterious way. Fortunately I was near a little machine-shop where the man in charge had evidently seen similar cases. In some way—I'll never tell how—he got at the strainer and cleaned it. Then he fished up the other strainer, and I was happy. It was nearly dinner



time so I found a place to eat and called it quits for the morning. Only ten miles toward Fitchburg, but with more experience than a man is often blessed with in such a short run. And not a puncture in the lot—perhaps I hadn't gone far enough. The remaining 17 miles were made without mishap, and I've been trying ever since to forget the first part.

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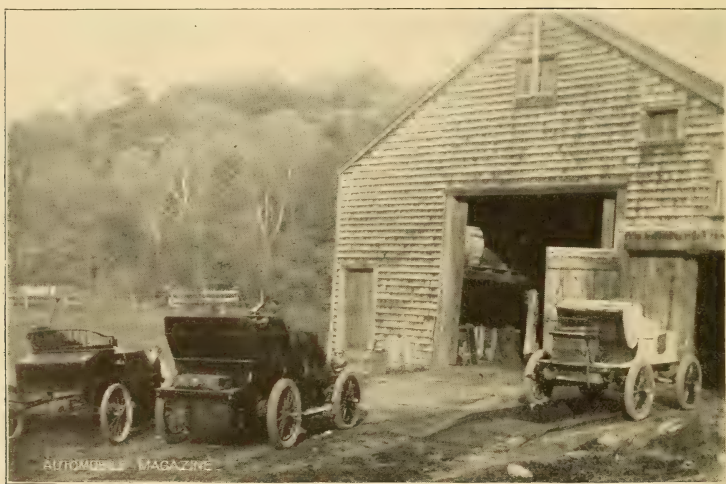
## A Boston Automobile Enthusiast

SUMMER along the beautiful north shore of the Bay State allows the fullest enjoyment of the sport of automobiling, and among those who were most enthusiastic in that form of recreation there last summer is Dr. Charles H. Parker, of New York city, who has a beautiful summer residence at Beverly, overlooking the entrance to Salem harbor. One of the features of the doctor's place is the large old-fashioned barn, for although its look suggests nothing but horses and cows, the traditional live-stock of a well-to-do farm, a chance visitor on a fine summer day would be more than likely to see nothing in the barn-yard but automobiles. And they would seem numerous. The AUTOMOBILE MAGAZINE correspondent found just this state of things when he happened down there one fine morning toward the end of the season, when the doctor was almost ready to take his departure for his winter residence. The three automobiles were all out in front, with the doctor's man, Fred Nagel, and a helper, at work on them; and they seemed strangely out of keeping with the old building and beautiful stretch of woodland beyond them.

A twelve-horse-power Gasmobile stanhope stood over a wooden "pit" which the owner has had constructed just outside the carriage house of the barn, for repair purposes; and in the middle of the yard was the big, two-seated Gasmobile surrey, which is a good American copy of the high-powered French type of automobile. It weighs two tons, has a four-cylinder, thirty-eight H. P. engine, and its four speeds are intended to be eight, twenty, forty and sixty miles per hour. But Dr. Parker has found it rather too much of a racer for use on roads where a horse-drawn equipage is likely to appear around a turn of the road at any moment without giving proper chance to turn out, and he prefers to go bowling around the country in the stanhope.

There was a third machine, however, a steam carriage, which is

of particular interest, because it was designed and built on the doctor's own place, by Nagel, his man. Its peculiarity was that it had its boiler and engine—not under the seat as in the common type of steam rig, but under a sloping sheet-iron hood, in front of the occupants, giving an appearance more like that of the big French gasoline cars of recent pattern. One might think this arrangement would fill one's nostrils with fumes from the burner, or cover one's clothes with oil from the engine, but neither is the case. An ingenious, scoop-like contrivance between the forward wheels provides a forced draught when the carriage is in motion, and carries all odor backward so swiftly that none is perceptible to the persons on the seat. When the



Dr. C. H. Parker's Automobiles at Beverly, Mass.

carriage is standing still, the vent is through the top of the hood—otherwise, it is through a tube at the level of the carriage floor. Both the doctor and his man have found it a great convenience to have the whole mechanism in front of them, where they may reach almost any part easily without stopping and dismounting. The supply tanks are under the seat, and the vehicle has an unusually long wheel-base.

Next year Dr. Parker intends building an addition to the front of his barn, specially designed for automobiles. He will also have a shelter over his repair pit, and separate stalls for each vehicle. He has already ordered an engine for a new gasoline carriage, which he plans to construct between now and the end of next season.

O. L. STEVENS.

## A New Steam Carriage

THE carriage shown is one which has been designed throughout by an engineer of wide experience. The attention to detail proves this to anyone who is conversant with mechanical design and encourages a careful examination. In general appearance it is not very different from other steam carriages, as will be seen by the engraving, which also shows the designer, Mr. Thomas F. Flinn. As the engine is the vital part of any carriage, it may well receive first attention.

It is of the compound type, with cylinders  $2\frac{1}{2}$  and  $4\frac{1}{4}$  inches by 4-inch stroke, piston valves being used as indicated. Steam from boiler comes into the central "steam inlet" of high-pressure cylinder (see Fig. 1) and the exhaust goes out at ends and across to the low-pressure cylinder, where it is used again and then exhausted to the atmosphere. Fig. 2 gives a cross-section view of the cylinders and also of the intercepting valve, which is shown in detail in Fig. 3 and in different positions in Figs. 4 and 5. In a compound engine for automobile work it is necessary to be able to use live steam in both cylinders. The intercepting valve shown enables this to be done with very little complication and no trouble on the part of the operator. In starting the carriage, especially if there is a rut or grade to increase resistance, the intercepting valve is moved to "simple" position by the nearly horizontal handle near steering post. This turns it as shown in Fig. 5 and allows the live steam from boiler to flow from the high-pressure steam chest *HP* to the low-pressure steam chest *LP*, giving more power than a simple engine (owing to larger cylinder on one side) and starting with ease. In this position it gives both cylinders free exhaust to the atmosphere. As this takes more steam than running compound, the lever is moved to "compound" or running position as soon as the carriage is under way. This turns the intercepting valve to position indicated in Fig. 4, closing the high-pressure exhaust to the atmosphere and forcing it to the low-pressure cylinder. The engine weighs 75 pounds without lagging.

Compound engines have been a necessity in stationary work, are slowly but surely forcing their way into locomotive service, and there seems no reason why they shouldn't have a field in automobile con-



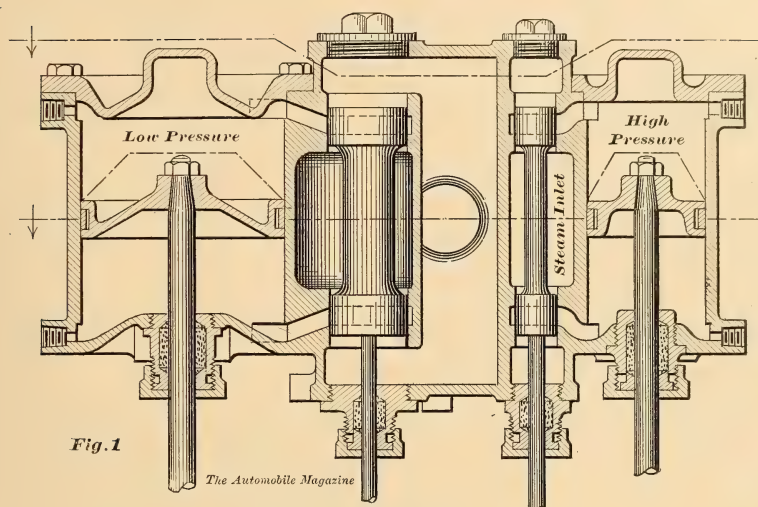
struction. True, they have disadvantages in the shape of first cost, added parts and more or less complication, but these have not been found a serious drawback in other fields, and the complications in this case are not serious enough to be objectionable. There should be a somewhat smaller consumption of water and fuel and the exhaust, being at a lower temperature, is less visible. Of course this is not the only carriage having a compound engine and many people will probably always prefer the regular machine, just as some railroads do not



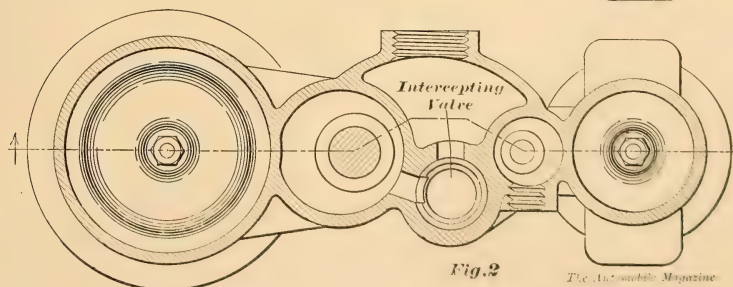
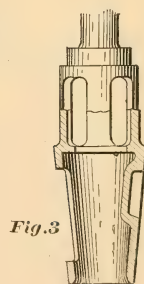
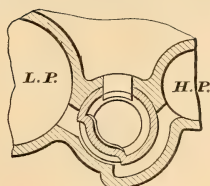
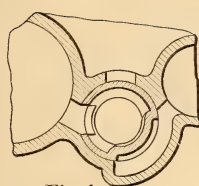
Mr. T. F. Flinn in his Steam Carriage

use compound locomotives, and the field being plenty wide enough for both.

The machine shown weighs 1200 pounds with 22 gallons of water and  $4\frac{1}{4}$  gallons of oil. It has a wheel-base of 66 inches and has a 54 gauge. Tires are Dunlop and with 4-inch elliptical springs and hickory reaches, make a very easy riding carriage. This idea of hickory reaches, which was used and abandoned by some makers, seems to have been one of the features of the last French show.



Cylinders of Compound Engine



Details of Compound Engine, See Pages 163-4

The chain runs from a 10-tooth tempered sprocket to a 25-tooth on the rear axle and there is a band-brake on each side of the differential. This really places a brake on each half of the rear axle and makes a very safe arrangement. The brake is double-acting.

The boiler is of the water tube type, being known as the "climax" in stationary practice. It is entirely without rivets and the only bolts are in a hand-hole plate, to allow for cleaning and inspection. It supplies ample steam for the engine already described, even when used "simple" on heavy grades. A test of this was in towing a disabled carriage weighing 1200 pounds up the bad hill at Fort Lee, N. J. Mr. Flinn tells us that he averages nearly 12 miles per gallon of fuel and about two-thirds of a gallon of water per mile, which is very good for a machine of that weight.

Another interesting feature is that he burns either gasoline or kerosene in his burner, just as it happens and has no trouble with either.

This carriage is soon to be placed on the market by the New York Motor Vehicle Company of 26 Broadway, New York.

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## AMENDMENTS TO THE RACING RULES OF THE A.C. OF A.

**R**ULE 53 has been amended to read as follows: "Once in the hands of the starter, no automobile shall receive any further care, except from its driver, or his assistant."

### NEW RULES.

15a. In record races and contests, automobiles shall be classified according to weight.

15b. Bicycles, tricycles and tandems shall not compete against four-wheel vehicles.

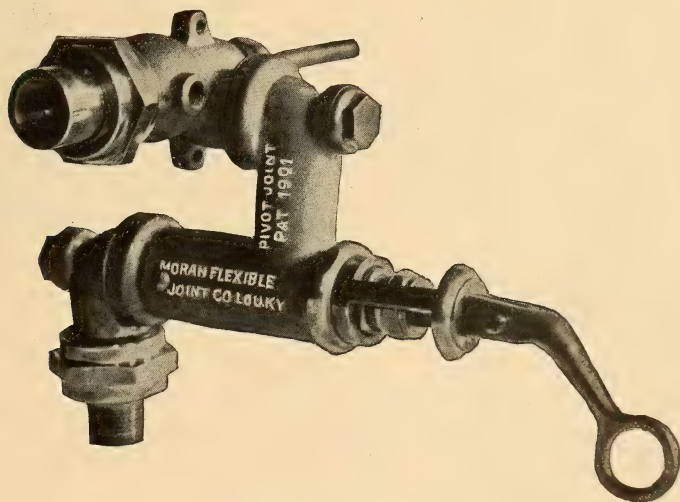
63a. During the running of a contest or record race, the driver must have exclusive control of the steering and power of his automobile.

67a. No time shall be considered official unless the time is taken by an official of a "recognized meeting," or by one appointed subject to the approval of the racing committee.



## An Auxiliary Throttle Valve

TO prevent steam automobiles running away, the Moran Flexible Steam Joint Company, of Louisville, Ky., has devised what it terms an anti-runaway valve, as shown in the illustration. It is placed between the throttle and the engine and may be closed by a light touch as the operator leaves the carriage. It is behind the seat apron and therefore is not apt to be disturbed by curious med-



Auxiliary Throttle

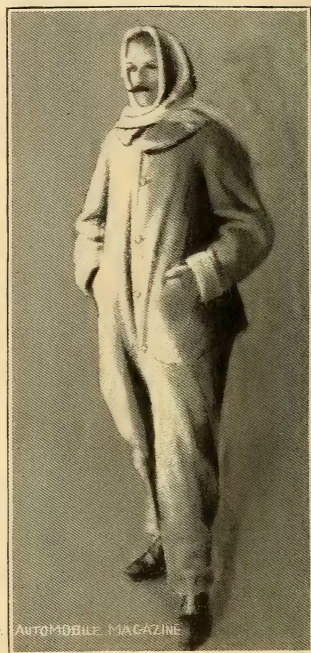
dlers. Its use gives a feeling of security when leaving a carriage on the street and is a safeguard that many will appreciate.

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The Lehigh Valley Railroad has just issued an order prohibiting the shipping of automobiles with gasoline or naphtha in their tanks. Unless the tanks are empty they will not be accepted for transportation. Agents are requested to make a thorough examination and see that this rule is complied with.

As a protection from dust and cold the costume indicated by this accompanying cut scarcely needs comment other than to state that the interior, which is invisible by portraiture, comprises a detachable lining of fur for the winter season. It seems to be a sort of clever adaptation of pajamas and union suit, designed by Ström Bros., Chaussée-d'Antin, Paris. The head covering of Caucasian type, is most practically suited to its purpose of guarding the neck and serving as casque at the same time. At first sight it might be supposed that the wearer was fitting himself out, à la Esquimaux, for a trip to the North Pole, but it is merely an automobile costume of the latest Parisian design.

These same Scandinavian tailors have ingeniously con-



Monsieur



Madame

trived an elaborate automobile creation for the furthering of comfort and elegance when Madame takes her constitutional in the park these frosty days. This mantle is fur-lined or silk, as desired, and is made from the whole skins of the skunk, the white lines on the backs of this little animal being thus used most cleverly to produce a rayed, black and white, alternating effect that is very artistic. Picturesque and dainty the model, as here reproduced from *La Locomotion*,—a striking contrast to the garb indicated for the gentleman; but no French woman would array herself without due consideration to the artistic side of comfort—if there was one.



*(We desire those interested in both the manufacture and operation of Automobiles to send whatever they think may be of interest to our readers.—EDITORS.)*

#### COAL VS. GASOLINE FOR AUTOMOBILE

I HAVE perused your magazine, including many of its back numbers, and have failed to find any article on why steam automobiles have for a fuel such a dangerous liquid as gasoline. Why cannot soft coal be used, thereby eliminating all risk of automobiles catching on fire, being destroyed and frightening people. Coal is used successfully in fire engines for generating enough power, not only for their pumps but also to propel themselves through streets. Why cannot the same principles be applied to pleasure automobiles?

LA PORTE, IND.

GEORGE K. POWER.

The main reasons for not using coal in pleasure automobiles is on account of the ensuing smoke and also because the steam generator would have to be of such ample proportions that its weight alone would be an absolute detriment to a vehicle built for pleasure purposes. Some steam delivery trucks are in use which use coal for fuel and are satisfactory, but it is not soft coal, for ordinances of any good sized city prohibit the use of any smoke-making article on the streets.

Another reason why coal cannot be used for pleasure automobiles is that not enough heat in proportion to weight and bulk can be obtained. The flame on a gasoline-burner with the fuel under pressure, such as is the case in the modern steam automobile, is virtually a "blow-pipe" variety, being about as hot as can be successfully handled in an apparatus which must stand as much knocking about as is given to the average automobile. Although the gasoline flame



is dangerous in the hands of those unacquainted with its correct methods of usage, it is well under control and comparatively harmless when supervised by one familiar with it.

### EDISON'S NEW STORAGE BATTERY

Is there any way of getting technical statistics regarding the new iron-nickel electric storage battery invented by Thomas A. Edison? Is this battery being used commercially?

NEW YORK.

K. N. PHILLIPS.

While the AUTOMOBILE MAGAZINE is in a position to give an impartial opinion on the Edison iron-nickel battery, it is unfortunately impossible to give a verdict as to its merits at the present time for the reason that there are no data concerning the actual performance of the battery. All that is generally known has been taken from the description read before the American Institute of Electrical Engineers by Dr. Kennelly, last May, the salient features of which gave the weight per horse-power of stored energy, 53.3 pounds, as compared with a minimum of 125 pounds per horse-power for a lead battery. It was also intimated that the cell could be discharged much more rapidly without injury than the lead battery.

Continuing further, the ideas of F. Valdemar Henshaw, an electrical engineer are given, he furnishing this opinion exclusively to this magazine. "The construction of the plates is very strong, and mechanically the battery is infinitely superior to the lead one. On the other hand the voltage of the cell when first charged, is only  $1\frac{1}{2}$  as against  $2\frac{1}{2}$  of the lead battery, and its mean voltage during discharge is only about 1.1 volts as against nearly 2 of the lead battery. This means that a great many more cells are required for the same voltage and that while the new battery might be lighter than the old for equal power, it would probably be more bulky.

"There is no satisfactory data given as to the efficiency or life of the battery. A point which may be of considerable importance is the fact that the solution is caustic alkali, which cannot very well be exposed to the air, hence it may be necessary to seal the cells by means of a layer of oil over the surface.

"It will be seen from the above that the status of this battery is not proven, but I would add that I understand Mr. Edison is equipping a factory in New Jersey on an elaborate scale and building special machinery for making the battery plates. It is hardly to be supposed

that one so practical as Mr. Edison would go to this extent in preparing to manufacture a new device unless he had proved satisfactorily to himself and his associates that it were a success. It is quite certain that if this battery will do what is claimed for it, its owners would be wise in not attempting to put it on the market until they were prepared to fill orders on a large scale, inasmuch as the demand for it would be enormous.

“In regard to the novelty, I would say that probably every ordinary and many extraordinary metallic compounds have been experimented with in storage batteries, but hitherto I believe no one has succeeded in finding a compound of iron or of nickel that could be used as active material in a commercial battery. Curiously enough in Dr. Kennelly's paper it is intimated that nobody knows the precise chemical properties of the compounds in the Edison batteries. The mechanical construction of Mr. Edison's new battery is novel and very original.”

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#### GUARANTEES OF AUTOMOBILES

I AM credibly informed that the question of guarantees of automobiles was thoroughly discussed by the Executive Committee of the Automobile Manufacturers' Association, at a recent meeting, and that the members present took a most decided stand against liberal guarantees. A standard of uniform guarantee was resolved upon, and it was decided to only guarantee the vehicle at delivery, the same to be in good condition, first-class in workmanship and fully operative at such time.

That is a very comfortable move on the part of automobile makers, but it strikes an automobile owner and user as being too one sided. Experience inclines me to believe that, in doing this, the automobile makers insist on being favored by purchasers to an extent that no other manufacturer would dream of claiming. The automobile has not got far beyond the experimental stage, yet a great many manufacturers have been in the habit of requiring payments in advance, sufficient to pay the cost of building the machine and have been notoriously lax in time of delivering, and now they want to escape from the ordinary business proposition of giving a guarantee.

The number of broken-down and dead automobiles that are to be seen on any roadway frequented by automobiles is testimony to ignorance of designers and indifferent workmanship. In many in-

stances draughtsmen, whose experience has been almost entirely confined to bicycle work, are employed to design automobiles, and the result is a machine bristling with engineering flaws that make the life of the owner a burden to himself and the business of automobile making and operating a subject of public ridicule.

The automobile is improving, but the experience that helps the makers to turn out better work is nearly all obtained at the expense of automobile operators. A fair guarantee is the surest way to keep the manufacturers up to their work and purchasers ought to insist that a good time guarantee is given.

NEWARK, N. J.

A. CONVETH.

#### ROUTES FROM NEW YORK TO JERSEY TOWNS

THERE is one road through Jersey City to the Hudson County Boulevard, and it is the only possible way of riding over there on good roads.

Take either the 23d Street or Cortlandt Street Ferries of Pennsylvania Railroad to Exchange Place, Jersey City. One block up Exchange Place to Hudson Street, turn one block to York, turn right up York five blocks to Henderson, (Adams Express Building on the corner) turn right in Henderson two blocks to Mercer, turn left up Mercer about one mile to Hudson County Boulevard. Corner of Mercer and Henderson is City Hall. All of this route with the exception of Exchange Place and Hudson Street is asphalt. When they reach the Hudson County Boulevard, automobilists are often confused. By turning to the left 10 blocks the Newark Plank Road is reached which is very badly paved more than two-thirds of the way, and leads to the lower part of Newark in which the roads are in very bad condition. Turning to the right when you reach the Boulevard eight blocks, you reach West Newark Avenue which is the continuation of the Old Turnpike, and which is in very bad condition. When the weather is wet the road is covered with 2 or 3 inches of mud, if it is dry the dust is stifling; then you have the pleasure of riding alongside of great manure piles.

I would suggest if one desires to reach Plainfield or Morristown, or go to Philadelphia or down the coast to Long Branch, turn to the left on the Hudson County Boulevard, seven miles to the Bergen Point Ferry, and cross to Port Richmond. Ferry runs every 15 minutes. After crossing the ferry turn right and follow the shore



road about  $2\frac{1}{2}$  miles (you cannot make any mistake) and this will bring you to the Elizabethport Ferry. Cross this and you will have about 8 to 10 blocks of stone pavement that is very good, and will bring you to the macadamized system of Union County.

This is the shortest route from New York City to Plainfield, Morristown or Philadelphia or down coast districts, that is if you go by Jersey City.

Another route, which is the shortest way possible for automobilists to go to Philadelphia on the Jersey shore, is to take the ferry to St. George, S. I., Amboy road to Tottenville, Perth Amboy direct to Metuchen, New Brunswick, or Philadelphia, or continuing along the Metuchen road to the Jersey shore, you turn left and go south *via* Old Bridge to Matteawan; the route for Staten Island is beautifully paved, every foot of it, if the driver will only keep to the main boulevard, which is well marked with sign-boards. To reach the northern part of the State, or go to Hackensack, Paterson or Passaic and avoid the Newark Meadows, it is necessary to turn right when you reach the Boulevard at Mercer Street and follow the Boulevard north and down Kelley's Hill, taking Richfield road to Hackensack Turnpike, or Little Ferry; all roads in good condition.

JERSEY CITY, N. J.

FRANK EVELAND.

#### HAVING BRAKES EXAMINED

**I** am a crank (perhaps) on the question of brakes and before taking my carriage out next spring—too cold now—I shall have the brakes thoroughly overhauled. My present brakes do not hold backwards as well as they should and I have about decided to order a pair of the double-acting kind advertised in your last issue.

I shall leave the old brake on the differential and put the new ones on the hub of each rear wheel. I've never had any special trouble, although carriage did start to back down a bad hill once, but I believe in prevention of accidents even at the expense of getting even with the insurance company. If any of my friends haven't thought of looking after their brakes before another season, I'd advise them to put it down on their memory pad at once.

ALBANY, N. Y.

R. G. WILLIAMS.

## Through the Great San Joaquin in a Locomobile

By L. H. JOHNSON

**A**T early morn I unhooked "Polly" and steamed gently away from the Locomobile station in San Francisco, down Market Street to Oakland Ferry. Matsu, the Japanese "hostler," had done his prettiest and the machine sparkled from rim to rail. My impedimenta was stowed in a hamper back of the seat. I carried an extra gasoline tank, giving a 10 gallon total capacity, but started with about a quart, as Senator Platt had not yet passed his national ferry automobile bill. The trip over the asphalt to Second Street was soon accomplished, then we swung into the cable car rails and quickly reached the Creek boat. Turning out the fire, and blowing off the remaining gasoline, I still had steam to run up the bridge and on the boat.

At Oakland, my friend H. met me with 10 gallons of fuel in his Locosurrey, and I was quickly spinning down the Fruitvale road, reverser hooked back to full cut-off and "Polly" purring like a contented kitten. Below Fruitvale, we reached the celebrated Haywards road, and taking water at San Leandro, went at 25 miles an hour through almond orchards laden with their pink and white fragrance, pulling up at the Haywards villa long before dinner. At 2 o'clock we climbed the Haywards hill bound for Livermore 22 miles away. The best road lay through the Dublin Canyon, but on reaching the fork, I found it torn up with new and unbridged culverts, while masses of rock seemed to be flying through the air from incessant blasting. The alternative was by San Ramon and on that self-same road "Polly" and I had our first experience with that Western abomination "adobe." Hell is doubtless paved, not with good intentions but with "adobe," and it will be the punishment of wealthy and unpatriotic "chauffeurs" to spin their driving wheels and cover themselves with the semi-liquid glue, which takes off varnish like lye and ruins clothes.

Finally sliding down a 25 per cent. grade hill into the little village of San Ramon, brake on hard and occasionally cushioning a little on air, I gave "Polly" a good long drink and started over a good road 6 miles to Dublin. This was an exhilarating little bit, covered in 19 minutes. The wheels had been packed solid with "adobe,"

but soon cleared themselves. It was a perfect afternoon. Mount Diablo, solitary and majestic, loomed 4,400 feet high on my left. Ahead, the Livermore hills, 2,000 feet high, were covered with snow on their north side, turning from white to pink, and from pink to crimson as the sun went down. The fields and meadows were clothed in the tender green of early Spring. Larks sang and the harsh, whippoorwill cry of the valley quail rang through the evening stillness. It was a cool ride, so that the great log fireplace of mine host in Dublin seemed very snug as I sat toasting my feet and sipping "something



J. Dunbar Wright and Henri Fournier in latter's Car at the end of 2 fast miles

hot," while supper was preparing. "Polly" stood patiently under the horse shed, her warm heart stilled and her life gradually ebbing away, to be revived by poking a hot iron into her vitals in a most cruel manner! I can now understand the affection a locomotive engineer feels for his engine, for the many weary miles of atrocious "adobe" mud, ruts, lumps rougher than cobble stones and deep sand that my Locomobile has covered uncomplainingly, without a loose nut or a broken spoke, has endeared her to me, and it is hard to



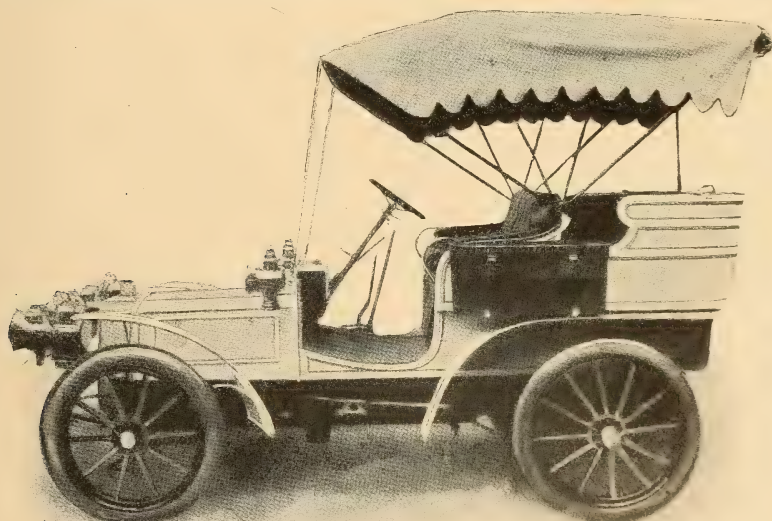
steam her up after a long day's run and drive her another 20 or 30 miles by lamplight.

I made the run from Dublin to Livermore, 11 miles, in three-quarters of an hour, every mud hole, stone and rut showing like daylight in the powerful rays of "Polly's" two Solar acetylene lamps. Free wrinkle to automobilists: Bore a hole three-eighths of an inch in diameter in your right-hand lamp, in such a position that a direct ray from the flame will strike your water glass. Snap off the shield, put it in your pocket and there you are!

Bowling along over the graveled road, an unsteady individual shows up in the glare of our lamps. I pull up to ask him the distance to Livermore. He informs me correctly in thick tones and adds that "Blest if I did not think I had 'em sure" when he saw those two great stars and heard "Polly's" low exhaust. At Livermore I met my old friend C——, ran "Polly" into the livery stable, backed her around on the washing-rack, stripped her for a thorough drenching (the only way to get "adobe" off) and was soon in bed.

Livermore is a pretty town of twelve hundred population, located in a broad valley and containing a large number of beautifully smooth roads. Over these I put "Polly" through her best paces, occasionally driving her through a creek (turn your water glass shield sideways to avoid breaking the glass) or out to the foot-hills to demonstrate her ability to climb a thirty per cent. grade. It rained on Wednesday and Thursday, but Friday noon found us with our faces turned towards the east, good-byes were spoken and we steamed briskly out for Tracy, 22 miles away. The road was good for 6 miles, then began to ascend, winding over the treeless hills, where appeared hard, rough "adobe," with deep ruts, over one of which I would straddle "Polly" when possible. Dinner and water at Altamont and after four miles of more climbing, the summit was reached and a vast inland sea of young wheat lay spread out before me. In the great San Joaquin Valley, which comprises the lower half of the central plain of California, there is abundant room for New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut and the half of Maine. Think of that, ye self-satisfied Bostonians! Southward through this great plain was to be our pilgrimage and it was rather exasperating to be introduced at once to a long run of swampy adobe, which, however, finally gave way to gravel as we approached Tracy. A stop in that thrifty little railway town to "wet up" ("Polly" of course! what an insatiate thirst she has, as if a fever were raging in her vitals!) and then east

to Banta and finally south on the long journey. The road improves and for the last ten miles was like a floor, only billowy, giving a most exhilarating motion as we flew over it at a three-minute clip. Finally about supper time, a small tavern, a barn opposite, and one other building showed that we had reached the metropolis which staggers under the name of San Joaquin City. It was small but "all there." "Polly" was run in the barn, where I shortly blew her off in the immediate neighborhood of the most sensible young mare I ever saw. 'Mid clouds of steam and the hoarse roar of the blow-off valve, she simply looked around curiously, then went on munching her barley.



Rochet-Schneider Car with Canopy

I think I ate more fricasseed chicken and stewed California figs that night than ever before at one sitting. Afterwards, while on the stoop, an occasional mosquito tried to remind me of my New Jersey origin, but the California article is such a dispirited thing compared to his eastern, or Alaskan relative, that he cuts no figure as a nuisance.

The Reverend Mr. F—— was on his way back to Tracy, after conducting a country funeral. He gave such horrible accounts of the bottomless pit, as exemplified in the river road below us, that I circled around over the wheat ranches next morning, sometimes striking a two or three mile stretch of lovely gravel surface, where I would "let her out" till she flew like a frightened jack rabbit, but I could

not get her steam below 140 pounds. "Polly" cuts her fire down to 195 and makes to 210, where she holds. I have screwed the safety-valve to lift at 240, so she never pops and scares horses. Wrinkle No. 2 for Locomobubblers :—If your steam runs down to 100 pounds, and your fire shows yellow, tinged with red points of soot in the burner, get a stiff, round cycle chain-brush, put it on a slim handle and thoroughly brush out your burner through the lighting-hole. Then put your foot-pump tube in the burner-tube without the screw connection, pack around it with wet waste and blow the particles of carbon out of the little burner-holes. That works just as well as to take off your burner.

Running down to Westley, the road degenerated into a swamp for two miles, so I gave "Polly" steam on full stroke, opened her up and bowled merrily along over the young wheat. If there had been any fences, I think we would have jumped them! Water at the railroad station, then after a detour at Grayson, I found a good road to Crow's Landing; a short stop for lunch, then on toward Newman and a good hotel. I had driven so far 210 miles without causing a runaway or being delayed more than a few seconds, some of these cases being nervous horses. The Locomobile will not compare with the pioneer bicycle as a horse-scarer, and it is not the Locomobile, but the steam that generally startles them. At Newman a heavy rain set in, lasting for several days and converting the level plain into a sea, so I laid off and waited for things to drain a little.

It rained so hard and persistently, even drizzling when the sun shone, that when the "dry" north wind set in, I turned my back on the "adobe" country and pulled out for the east side of the San Joaquin river, or sea, as it should have been called at that time. The main road to Crow's Landing, over which "Polly" had bowled merrily a few days before, was a nasty swamp, pull, tug, slip, devouring steam by the mouthful. A mile from the bridge we nearly got mired, but I opened her up and she ploughed bravely through mud up to the hubs. Presto! we were on a magnificent gravelled road. Running at a 2.30 clip soon brought us to the great draw-bridge. This beautiful surface was part of the aforesaid swamp on which a few cart-loads of gravel from the river-bed had been spread. Crossing the bridge a little "faster than a walk," "Polly" struck out bravely over the treeless plain for Modesto, 17 miles away. In front of us were the giant Sierras, towering 15,000 feet, their summits snow-capped. The road, which started off with a pretty hard surface



soon began to show stretches of deep sand, in which poor "Polly" struggled, till in a particularly bad place with throttle opened far, her sharp musical cut-off suddenly changed to the watery roar of a priming boiler. This would never do, so out we get, dump a handful of soda in the tank, pump her up and start in once more. The medicine worked and she soon settled down to her old gait, landing me in Modesto by supper time in fine feather. The condition of the roads can be imagined from the fact that she burned five gallons of gasoline in covering the afternoon's run of 25 miles, and nearly three tanks of water. But not a screw was loose; no change but a big stretch in the chain, proving the terrific strain she had undergone. The only bit of jealousy was shown by a man in charge of the trotting-track at Modesto, around which "Polly" skimmed in 2.26, the surface being in poor condition. This party said we might get into trouble by scaring a six thousand dollar horse, corralled somewhere in the neighborhood, making him run up against a barbed wire fence, to which I promptly retorted that the owner had no business corraling such a jewel in a barbed wire fence.

Leaving Modesto, Merced was passed, and at 5.30 p. m. Madera was reached. At 7.30 the 25 miles to Fresno were commenced and we arrived at 9.15. We spent four days in Fresno in a most enjoyable manner, to which a first-class hotel greatly contributed. Asphalt pavements in town and fairly good country roads enabled me to exhibit the Locomobile's paces admirably and everybody was enthusiastic over her running. We steamed out to the new eight lap bicycle track, but were not allowed on it, although I am sure that "Polly" would have taken its forty-five degree banked ends perfectly. Then we went to the old three lap of earth, but it was so seamed and gullied by the rains that speed was out of the question.

Leaving Fresno and passing through a number of towns, we crossed the Kern River, swollen with snow water, and as the mountains closed in around us on the south, drew up in Bakersfield 128 miles from Fresno, in exactly 8 hours and 15 minutes running time, an average pace of a little better than 15 miles an hour. "Polly" had traversed the great San Joaquin valley from top to bottom, steaming every inch of the way, except over the "Chowchilla" trestle, had covered 384 miles straightaway in 6 days running time and had steamed 219 miles additional while in the different towns. She finished in practically as perfect condition as when she started, and had no adjustment, repacking or repairs of the slightest description during

the entire trip, except to brush out her burner and one "take up" of the stretch to the driving chain. The railroad fare from San Francisco to Bakersfield is \$9.10. It cost me \$5.76 for gasoline, the only expense, and I had no dust, smoke, cinders, or even train boys to annoy me.



Bernard M. Baruch, in his 12 H. P. Panhard

The representative of the Standard Oil Company at Malta has just obtained from the local government a concession to erect a building for the storage of gasoline. The importation of gasoline had previously been prohibited. There is already a demand for gasoline carriages on the Island, for carrying both passengers and freight. Automobile makers wishing to do business in Malta ought to communicate with Mr. John H. Grout, American Consul, Valetta, Malta.

## Automobile Club Directory

*Under this heading we shall keep a record of the motor vehicle clubs both of this and other countries, and we hope to have the co-operation of club officers in making it accurate and complete.*

*Corresponding clubs of the Automobile Club of America are designated thus \*.*

Automobile Club of America, S. M. Butler, Secretary, 753 Fifth Ave., New York ; representative on International Racing Board, Clarence Gray Dinsmore ; Substitute, John H. Flagler.

Automobile Club of Bridgeport, Secretary, Frank W. Bolande, 208 Barnum Avenue, Bridgeport, Conn.

Automobile Club of California, Secretary, R. R. l'Hommedieu, 415 Montgomery St., San Francisco.

Automobile Club of Cincinnati, O., Secretary, Rutherford H. Cox, 30 West Seventh Street, Cincinnati.

\*Automobile Club of Columbus, O., C. M. Chittenden, Secretary, Broad Street.

Automobile Club of Hudson Co., Secretary-Treasurer, Frank Eveland, 52 Madison Ave., N. Y.

Automobile Club of Maryland, Secretary, C. W. Stork, care Hotel Altamont, Eutaw Place.

Automobile Club of New England, Secretary, Geo. E. McQuesten, Brookline, Mass.

Automobile Club of New Jersey, Secretary, W. J. Stewart, 8 Central Ave., Newark, N. J.

\*Automobile Club of Rochester, Frederick Sager, Secretary, 66 East Avenue, Rochester, N. Y.

Automobile Club of Springfield, Mass., Stephen P. Perkins, Secretary.

Automobile Club of Syracuse, Syracuse, N. Y.; Secretary Frederick H. Elliott, 515 S. A. & K. Building, Syracuse.

\*Buffalo Automobile Club, Secretary, Ellicott Evans, The Lenox, Buffalo, N. Y.

Chicago Automobile Club, Secretary, H. M. Brinkerhoff, Monadnock Block, Chicago.

\*Cleveland Automobile Club, L. H. Rogers, 357 Amesbury Avenue, Secretary, Cleveland, O.

Columbia College Automobile Club, Lewis Iselin, Secretary, Columbia College, New York, N. Y.

Indiana Automobile Club, Indianapolis, Ind. Secretary, August Kabich.

Long Island Automobile Club, Secretary, L. A. Hopkins, 1190 Fulton Street, Brooklyn.

Massachusetts Automobile Club, President, J. Ransome Bridge ; Treasurer, Conrad J. Rueter ; Secretary, L. E. Knott, 16 Ashburton Place, Boston, Mass.

\*North Jersey Automobile Club, E. T. Bell, Jr., Secretary, Paterson, N. J. Pennsylvania Automobile Club, Secretary, Henry J. Johnson, 138 No. Broad Street, Philadelphia.

\*Philadelphia Automobile Club, Frank C. Lewin, Secretary, 250 No. Broad Street, Philadelphia, Pa.

Princeton University Automobile Club, Princeton, N. J. President, P. Adamson ; Secretary, Charles H. Dugro.

Rhode Island Automobile Club, Secretary, Frederick C. Fletcher, P. O. Box 1314, Providence, R. I.

San Francisco Automobile Club, B. L. Ryder, Secretary, San Francisco, Cal.

Worcester Automobile Club, Worcester, Mass., President, J. W. Bigelow ; Vice-President, Edwin Brown ; Marshal, W. J. H. Nourse ; Treasurer, B. A. Robinson ; Secretary, H. E. Shiland.

### AUSTRIA.

Budapest—Magyar Automobil Club, 31 Museum Kortil.

Innesbruck—Tiroles Automobil Club, Rudolph-Strasse 3.

Prague—Prager Automobil Club.



## BELGIUM.

Antwerp—Automobile Club Anversois, 34 r. Longue de l'Hôpital; Président, Baron de Bieberstein.

\*Brussels—Automobile Club de Belgique, 14 Pl. Royale; Moto-Club de Belgique, 152 Boul. du Nord; Touring Club de Belgique, 11 r. des Vauniers.

Charleroi—Automobile Club de Charleroi, 18 Quai de Brabant, Charleroi.

Ghent—Automobile Club de Flandres, 7 Place d'Armes, Gand.

Liege—Automobile Club, Liegeois, 2 r. Hamal.

## FRANCE.

Amiens—Automobile Club de Picardie, 36 r. de La Hotoie.

Avignon—Automobile Club d'Avignon.

Bordeaux—L'Automobile Bordelais.

Dijon—Automobile Club, Bourguignons Café Americaine.

Lyon—Bicycle et Automobile Club de Lyon; Motor Club de Lyon, 3 pl. de la Bouise.

Marseilles—Automobile Club de Marseilles, 61 r. St. Fereol.

Nance—Automobile Club, Lorrain, Thiers pl.

Nice—Automobile Vélo, Club de Nice, 16 r. Chauvain.

\*Paris—Automobile Club of France, 6 pl. de la Concorde; Motr-Club de France; Touring Club de France, 5 r. Coq-Héron.

Pau—Automobile Club, Bearnais Ave. de la Pau, Président, M. W. K. Thorn.

Périgueux—Véloce Club, Périgourdin, Hôtel de Commerce.

Toulouse—Automobile Club, Toulousain Café Riche, pl. St. Etienne Société des Chauffeurs du Midi, 25 r. Roquelaine. Président, M. Gay.

## GERMANY.

Aachen (Aix la Chapelle)—Westdeutscher Automobile Club, Hotel Grand Monarque.

Berlin—Mitteleuropaischer Motor Wagen Verein, I. Universitatstrasse, Herr A. Klose.

\*Deutscher Automobil Club, Luis-

enstrasse, 43-44. Président, S. D. Herzog, Victor von Ratilin.

Dresden—Radfahrer-und Automobilisten Vereinigung; Dresdener Touren Club.

Eisenach—Mitteldeutscher Automobil Club; Motorfahrer Club, Eisenach.

Frankfort am Main—Frankfurter Automobil Club, Restaurant Kaiserhof.

Munich—Bayer. Automobil Club, 33 Findling Strasse.

Stettin—Erster Stettiner Bicycle und Automobil Club.

Strassburg—Strassburger Automobil Club.

Stuttgart—Suddeutscher Automobil Club; Wurtembergischer Motor Wagen Verein.

## GREAT BRITAIN.

Birmingham—Motor and Cycle Trades Club, Corporation street.

Edinburgh—Scottish Automobile Club.

Liverpool—Liverpool Self-propelled Traffic Association, Colquitt street. Secretary, E. Shrapnell Smith.

\*London—Automobile Club of Great Britain and Ireland, 4 Whitehall Court, S. W. Hon. Secretary, C. Harrington Moore.

Nottingham Automobile Club, Secretary, A. R. Atkey, Nottingham, England.

## HOLLAND.

Nimègue—Nederlandsche Automobile Club. Président, M. J.-P. Baekx.

## ITALY.

Milan—Club Automobilisti Italiani, 14, Villa Vivaio.

\*Turin—Automobile Club d'Italie Via Vittorio Amedeo II, 26.

## RUSSIA.

Moscow—Moskauer Automobile Club, Petrowka, Hauschnow.

St. Petersburg—Automobile Club de Russe, Président, M. Delorme.

## SPAIN.

Madrid—Automobile Club de Madrid.

## SWITZERLAND.

\*Geneva—Automobile Club de Suisse, Rue de Hesse, 2, Geneva.

# THE AUTOMOBILE MAGAZINE

*A Live Journal for all interested in Motor Vehicles*

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## Threats to Impair the Rights of Automobilists

THE legislature of New York State which lately assembled in Albany, N. Y., is largely composed of rustic members, and reports say they are stirred to the depths of their being to do something that will put their individual names in the newspapers. Quite a number of them are reported to intend courting fame by introducing measures to embarrass and annoy the owners of automobiles. They seem to believe that automobilists have few friends and little influence, and that their rights can be abridged and their comfort disturbed with impunity. No doubt some of the rabid anti-automobilists expect that their opposition to horseless vehicles may be bought off in some way.

It is the duty of all automobilists who may find it convenient to travel with their automobiles in New York State to organize without

delay for self-defence. Everybody interested in automobiles, manufacturers and owners, ought to wage a vigorous fight. The tactics should be as aggressive as possible. The entire influence of organizations and individuals interested should be directed against the people who are trying to interfere with their rights and privileges. The differences between the manufacturers and the clubs ought to be suppressed to face harmoniously a common danger. If this course is followed the hayseed legislators who supposed that they could attack automobile interests with glory to themselves, will wish they had never heard about a horseless carriage.

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## Rhode Island Automobile Club Banquet

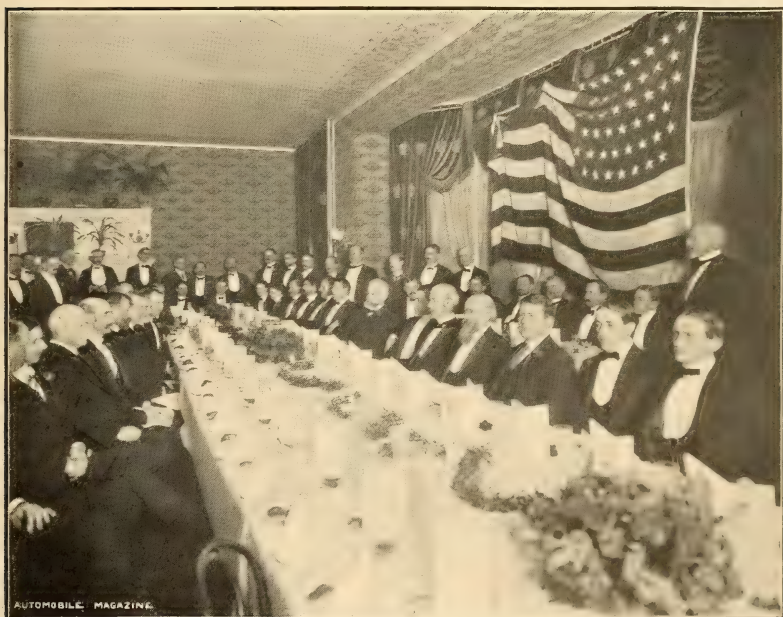
THE first annual banquet of this club was held at Crown's hotel, Providence, Wednesday evening, January 8. The club has appropriate quarters on the second floor of this new hostelry. Before the banquet commenced, the annual meeting for the election of officers and the transaction of other business was held. The election resulted as follows: President, Dr. Julian A. Chase, Pawtucket; first vice-president, H. A. DuVillard; second vice-president, James E. Blake; treasurer, R. Lincoln Lippitt; secretary, H. H. Rice; assistant secretary, B. S. Clark; consulting engineer, Joseph H. Manton; governors to serve until 1905, Charles O. Read and F. C. Fletcher.

There was a distinctly automobile flavor to the dinner, one of the courses being "Fournier Frappé." Dr. Chase, the president, who also acted as a toastmaster, started the speaking by telling the seventy-five diners what the club had endeavored to do since its organization a little over a year ago. He then introduced Winthrop E. Scarritt, a member of the board of governors of the Automobile Club of America, and member of the committee for holding the endurance contest which the club completed so successfully last fall. Mr. Scarritt spoke on the "Pains and Pleasures of Automobiling." His listeners, judging by their actions, were thoroughly interested, he completely owning the floor, as evidenced by the rapt silence in the audience, except at times when he forced those present to show emphatic recognition of some of his amusing comparisons and stories. The speaker called attention to the fact that automobiling in its present experimental stage in this country had just as many pains as pleasures, and *vice versa*.



He said he was the owner of three machines at present and each one was for sale. No one had the temerity to ask him if they would be for sale if he could not buy new ones. He frankly admitted that he had the reputation of being a pessimist on the subject, he giving a merry twinkle of the eye at the same time, which could not fail to be interpreted as a sign that he was a great enthusiast.

Mr. Scarritt told a story to show that notwithstanding the unreliability of automobiles and the pains and perils incident to operating them, we all want one. His words were : " A priest had as his special



Rhode Island A. C. Banquet

ward a young man who had been greatly endowed by nature physically and mentally. He showed unusual promise in appreciating what his education for priesthood meant. The priest and his ward one day in walking came across a party of young women bathing at the seashore, and the priest saw his chance to forcibly instil some ideas into the young man's mind which were absolutely necessary for the strict fulfillment of future duties. The priest commenced, ' Son, you see yonder women ; beware of them. As Kingsley so well says, women first opened the gates to Hell, and to this day they are the portresses

thereof. You are to take the vows of celibacy, and therefore you are to ignore forever and cease thinking of yonder creatures except in the way of doing them spiritual good. You must remember that they are sent here by Satan to ensnare promising disciples like yourself, enticing them from the strict path of duty.' The priest thought he had concluded an argument which found strong root in the young man's soul, but the latter answered, 'Father, I realize your words are true, but'—and the young man hesitated—'but,' he continued, 'I *want* one.' " "That," Mr. Scarritt concluded, "is our attitude towards automobiles."

H. Anthony Dyer, son of ex-Governor Dyer of Rhode Island, told about his automobile touring in France, giving ludicrous experiences of how he developed his pushing abilities, for, as he said, he had to do the part very often which should have been done by the motor. The strain on his piety also had been at unusual tension, but still it had not broken. His conclusions were that automobiling with all its present drawbacks was too fascinating to keep one who is familiar with all its bad and good points away from it.

E. P. Mason spoke on the manufacturing side of the subject, going into complete and interesting details of little things that cause users to lay up on country roads for indefinite periods, breaking up tours and causing general dissatisfaction. It could be plainly seen that if autoists meeting the machine derangements mentioned by Mr. Mason were familiar with constructional features, the ensuing delays would be counted by minutes instead of hours.

R. Lincoln Lippitt gave some of his American experiences in touring, telling in a laughable way how he had accidentally run over a dog's foot on account of the animal running out, barking and not being able to stop himself before the automobile was on him. The dog seemed so badly hurt judging from his pitiable cries that Mr. Lippitt stopped and went back to the house where the dog had retreated. Mr. Lippitt said that after arriving at the scene of action, he was sorry his spirit of humanity had gotten the better of his judgment, for he, not being a man of ponderous avoirdupois, was confronted at the front door by an individual who seemed at that moment to be at least seven feet high and built in proportion, wearing big leather hip boots and a rough flannel shirt that looked as though it would protect the wearer and itself even if a ton of coal fell on it. Mr. Lippitt could not then retreat and commenced, with trembling knees, an apology which called forth his best efforts at eloquence

combined with personal grief and humiliation, when the stranger interrupted with : " See here, you needn't give me any of that kind of chin music. I wish you had put him clean out of business, for he ain't worth powder to blow him to ——." Mr. Lippitt says that for some unaccountable reason his knees immediately stopped shaking, and he departed showing an air that if a bout at fisticuffs or collar-and-elbow work had been necessary it was something he would have relished.

The editor of this magazine answered the toast of " The Technical Press in Automobiling," and endeavored to show that one of the duties of the press was to spread the idea that automobiles were not simple, fool-proof, etc., but that successful usage of them was closely allied with good mechanical knowledge of their construction.

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The Automobile Club of Bridgeport, Conn., has decided to establish its headquarters at the new premises opened by the Park City Automobile Company, at 150 Cannon Street. This is both a storage and repair station. Its proprietor, J. M. Buckley, is a member of the club. At a recent meeting it was decided to accept the proposition of the Automobile Club of America to become affiliated with it on the plan which the parent club submitted, a full description of which can be found on the editorial page of this issue of the AUTOMOBILE MAGAZINE. The officers of the club are : Jonathan Godfrey, president ; Louis Cassier, vice-president ; Frank W. Bolande, secretary ; J. B. Cornwall, treasurer.

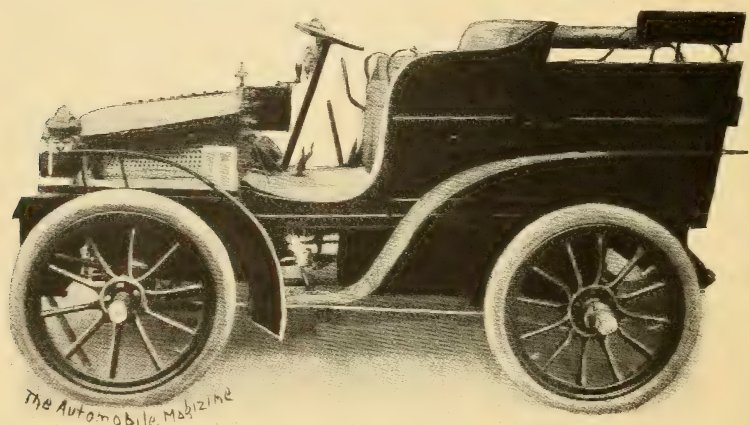
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At a meeting of the Board of Directors of the Locomobile Company, the following officers were elected : President, Samuel T. Davis, Jr. ; Treasurer, Thomas H. Thomas ; Secretary, John F. Havemeyer.



## The Foreign Show

THERE seems to be no dissenting opinion in pronouncing the French Automobile Exposition of the year 1901, in Paris, an unprecedented success, demonstrating the motor car of the present day as an ultimate universal factor of locomotion, and a perfected piece of mechanism as to finality of construction in its general principles. Accessories alone still demand the attention of the inventor and when they shall have attained the same standards as the rest of the carriage many a convert will be gained to automobiling who even now hesitates at the thought of the annual bill for repairs.

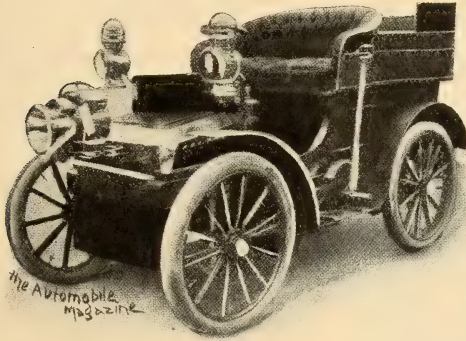


Jenatzy Petrol and Electric Carriage

From the opening day until the closing one the public thronged from all points of the compass, wending from booth to booth, querying, observing, remarking, not always intelligently, not all connoisseurs, yet carrying away with them a conviction of the magnitude of the movement and its serious purpose (also countless circulars and souvenirs that bulged their pockets beyond repair) which is impelled by a force against which no current of adverse opinion can combat.

Perhaps our French confrere, M. Baudry de Saunier, in attributing a large share of the success of the Salon to the opposition of the dailies which have exaggeratedly opposed and persecuted the new locomotion, is not altogether wrong in his deductions ; at least they are logical enough to quote : (*Translated.*)

"Since the world was, persecution has had no other effect than to infuse new vitality into the very innovations it aimed to stifle. Without going back to the deluge, which was intended, according to sacred writ, to punish the vices of the few mortals who then wandered



The Bollée Tonneau

on our planet,—but which only resulted in rendering the earth all the more fertile to nourish an innumerable populace of mankind even more vicious than their remote ancestors,—or without even reverting to the Christian period which was nourished and strengthened by the

blood of its martyrs, we may note that here in our day, the most effectual method of creating interest in a play is to forbid its production, and to increase the sale of a book it is but necessary to hale the author into the court of assizes.

"The motor may not pose as an exception to this rule. And, assuredly our enemies rendered us good service when they declared war on us, stigmatizing us as a race of murderers and imposing on us these disgraceful great numerals. From all sides, those who would otherwise have been indifferent have hastened to gaze on this display of the wheeled assassins, crowding to see the huge engines of crime that have been exploited in the records (Paris-Bordeaux, Paris-Berlin, hill-climbing contest of Gaillon, etc.) and verily: even the women went into ecstasies before the seductive vehicles, while more than one person who entered with vindictive spirit went away won over to the side of the assassin.

"Blessings, then, on our spiteful brothers, for having benefitted us so much by sending the multitude of sight-seers. Thanks to them the automobile idea has wonderfully developed in the minds of the public and drawn new strength from the combat."

A few years hence we may hear our children conning their arithmetics after this fashion: "If two motors sow two fields of grain in two hours, how many . . . etc., etc." A description of the mechanical features of the French Show may be found beginning with page 103.

A. L.

## Long Tour of a Toledo

THE Toledo steam carriage which the International Motor Car Co.—the new organization that has taken over the motor vehicle business of the American Bicycle Co.—is sending overland from Toledo to Hot Springs, Ark., 1500 miles, as a test of its capabilities, is shown here. It is one of the standard style B machines of the Toledo factory, except that the gasoline tank has been increased from 9 to 13 gallons capacity. Following is the itinerary of the trip :

First Section—Toledo, Perrysburg, Roachton, Hull Prairie, Has-



Toledo Ready for Long Tour

kins, Tontogany, Weston, Milton, Custar, Deshler, Belmore, Leipsic, Ottawa, Columbus Grove, Cairo, Lima, Cridersville, Wapakoneta, Botkins, Anna, Swanders, Sidney, Kirkwood, Piqua, Troy, Tippecanoe, Tadmire, Johnsons, Dayton, Miamisburg, Carlisle, Post Town, Middletown, Trenton, Overpeck, Oxford, Woods, Hamilton, Jones, Glendale, Wyoming, Carthage, North Side, Cincinnati.

Second Section—Cincinnati, Ludlow, Anderson's Ferry, St. Joseph, Delhi, Home City, Fernhaut, Addyston, Sekitan and Northend, Ohio ; Lawrenceburg, Aurora, Rising Sun, Norths, Patriot,



Florence, Markland, Vevay, Lamb, Brooksbury, North Madison, Madison, New London, Harnell, Marble Hill, Bethlehem, Owen, Strelman, Utica, and Jefferson, Indiana, and Louisville, Ky.

Third Section—Louisville, Pleasure Ridge Park, West Point, Tip Top, Vine Grove, Cecilia, Long Grove, East View, Big Clifty, Greyson Springs, Leitchfield, Millwood, Caneyville, Spring Lick, Horse Branch, Beaver Dam, Rockport, Central City, Greenville, Nortonville, St. Charles, Dawson, Scottsburg, Princeton, Dulaney, Eddyville, Kuttawa, Grand Rivers, Calvert City, Stiles, Paducah, Boaz, Hickory, Mayfield, Wingo, Water Valley, Fulton, Paducah Junction, Rives, Moffatt, and Polk, Kentucky; Obion, Trumbull, Newburn, Dyersburg, Fowlkes, Gates, Curve, Ripley, Hennings, Covington, Atcka, Kerrville, Millington, Woodstock, St. Elmo, and Memphis, Tennessee.

Fourth Section—Memphis, Edmonston, Forest City, Palestine, Brinkley, Surrounded Hill, Devall's Bluff, Hazen, Carlisle, Lonohe, Kerrs, Agentia, Little Rock, Mabelville, Benton, Malvern, Lawrence, and Hot Springs, Arkansas.

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## J. Dunbar Wright's Lecture

WHETHER or not the semi-monthly Tuesday evening lectures in the club rooms of the Automobile Club of America are increasing in popularity, the fact is that the attendance is increasing and the climax seems to have been reached on the last occasion, held Tuesday, January 15, when J. Dunbar Wright gave an informal talk concerning his tours for 1901 both abroad and in America.

Mr. Wright enhanced the value of his words by displaying stereopticon views of maps, roads, towns, and miscellaneous scenes along his journey through France, Germany, and Switzerland. He went through each town in his descriptions, making many of his listeners feel as though they had almost been with him, he comprehensively describing topographical characteristics of the scenery, manners and habits of the people, idiosyncrasies of the weather, and lastly but not least, by any means, he gave an idea of the imperturbable philosophy displayed by his companion and host, Albert R. Shattuck.

Mr. Wright is now on the briny deep on his way to Spain, where he intends to do some automobile touring. A new French car awaits him there. He will return to this country during the late Summer.

## Affiliation Still Under Debate

THE subject of affiliation or the getting together of American automobile clubs for the purpose of governing the sport is still in the same unsettled condition that characterized it last month. The arrayed interests are the Automobile Club of America in favor of the proposed plan as outlined in the January number of the AUTOMOBILE MAGAZINE, and a number of clubs on the other side, this element feeling that the individuality or independence of the clubs will be lost if the A. C. of A. plan is accepted. Some clubs have already accepted the plan, some are holding off and some have openly refused to join. One of the latter is the Chicago Automobile Club, which in answer to the proposition of the A. C. of A. to affiliate sent the following reply December 17.

A. R. SHATTUCK, President Automobile Club of America :

Dear Sir—Chicago Automobile Club has, with much interest and in a spirit befitting the import of your proposal, given careful consideration to your esteemed favor, inviting affiliation with the Automobile Club of America. Chicago Club is heartily in accord with the project of forming a governing body to promote the objects you have in contemplation. We beg to lay before you, however, modifications suggested by our membership, and indulge the hope of having your consideration to the end that your efforts may lead to the organization of a representative governing body of national scope.

We feel that the Automobile Club of America is entitled to the recognition of the fraternity for its successful work, intelligently and unselfishly performed in the advancement of the sport and club interests, and, with full cognizance of the position your club now occupies as the leading organization of its character, we desire to subscribe to and support its project as fully as may be possible.

Chicago Club, and, we may add, Western clubs generally, while heretofore less active than yours, are none the less destined to become important factors in the development of the automobile, the sport, the trade, improvement of our highways and proper conservation of legislative action. In Ohio there are a number of clubs of such prominence and activity that they have organized a State federation whose work is directly in line with that proposed by your plan of affiliation. There are many clubs round about us, so that, considering the youth of the art the West has made substantial progress and bids fair to become as

important in all that appertains to motor vehicles as it has had the good fortune to attain in many other industries and sports.

It has been the observation of members of the Chicago Club in touch with amateur sports, that attempts to govern the entire country by a single Eastern organization have not been successful. This is not due to discrimination on the part of Eastern men against their fellows in the West, but to lack of appreciation of widely varying local conditions. We call your attention to these facts that you may appreciate our position and understand that the one object for which we contend is the institution of a representative governing body.

Having then given careful thought to the procedure proposed by your club, to the growing influence of the Eastern clubs and to the conditions existing in the West, we are disposed to regard with favor the formation of a national association on interdependent lines wherein all clubs may have such representation as may be warranted by their standing and in which all owners of automobiles, of acceptable repute, may become members at a nominal expense. The purposes of such organization would naturally be those contemplated by your plan of affiliation. The association should elect officers at an annual meeting and there should be committees to take charge of the various branches of the work ; these bodies should, in our judgment, be national in scope and representative of all sections of the country.

The racing rules of the A. C. of A., while doubtless as full and as comprehensive as was possible at the time of their adoption are not, in our respectful judgment, all that may be desired. We find on careful analysis that they are not in harmony in some respects. We believe that the regulations you propose should be tentative and subject to emendation by an organization such as we suggest.

We are, as you probably know, promoting an exhibition to be held at the Coliseum Building in this city, during the first week in March. We suggest that a meeting be appointed for that time, by the A. C. of A., in which representation from all the clubs of the United States and unattached owners be invited. It would be practicable, seemingly, by a conference between representatives of our respective clubs, with such others as will lend co-operation, to arrange for a convention of this character.

Should you favorably consider this recommendation, Chicago Club will appreciate and avail of the opportunity to extend its best hospitality to attending delegates.

Yours most respectfully,

F. C. DONALD,  
President Chicago Automobile Club.



The annual meeting of the Chicago Automobile Club was held January 9, and no answer having been received from the A. C. of A. to the letter of December 17, the latter feels that the communication may be considered a public one.

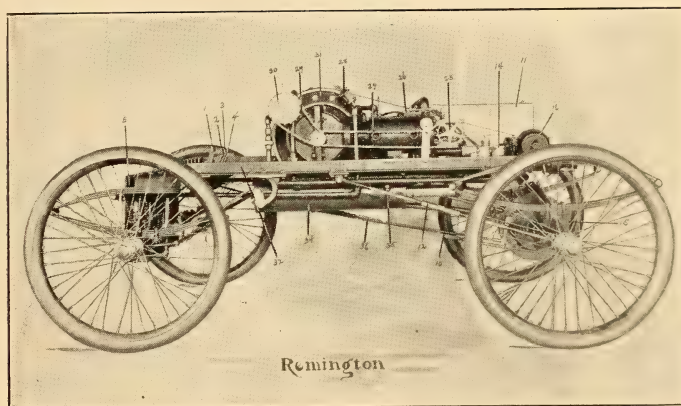
For the good of not only the sport, but also the industry of automobiling it is hoped that the various interests will stop getting further apart and arrive at a satisfactory conclusion, whereby all will be satisfied and join in a general movement to encourage the use of the automobile. The possibilities of getting pleasure and profit out of the self-propelling vehicle are too great for clubs to lay aside the main idea that "encouraging its use" should be paramount in the minds of those associated with the subject.

Suppose two governing bodies are in existence three months hence, the A. C. of A. one of them and some new association the other. Each to support its own prestige will be forced to ignore the authority of the other. Each will disqualify those who compete in the events given under the other's auspices. There is no knowing how far this matter would go. Take for instance the several events planned for next Spring by the A. C. of A. and the L. I. A. C. If the latter is not affiliated with the former, and holds an endurance contest, no one wishing to enter the former's events would dare take part in the L. I. A. C. fixture. A showing of strength in this regard will consist of banding together the greatest number of individual contestants with the greatest number of manufacturers, dealers, etc., to array against the other side. Whichever governing body controls the greatest number of manufacturers, dealers, or contestants, will be in a strongly fortified position, for it not only will have plenty of individual support but will have the machines. Those allied with it will feel that they lose nothing by being debarred from the events of the other side.

Many had not thought of this side of the question, the gravity of the threatened situation not being fully understood. War between two rival automobile legislative bodies means an arraying of interests against each other, the result eventually brought about being either amalgamation of the two or the death of one. It rests with those who have the power, to fight or join in a movement which will satisfy all interested in the general subject of automobiling.

## Remington Standard Automobile, Style "C"

THE body is of the piano box type with length of body 72"; width of body 36"; width of seat 42"; the gasoline tank will hold 7 gallons and is located back of the seat cushion. The body back of the seat is covered by a substantial leather boot. The motor and all mechanism are placed on and securely attached to an angle-iron frame upon which the body is bolted, and with such construction it is but a simple matter to remove the entire body in case of repairs or adjustment. This is done without disturbing any of the mechanical parts even to the wiring. The angle-iron frame rests on



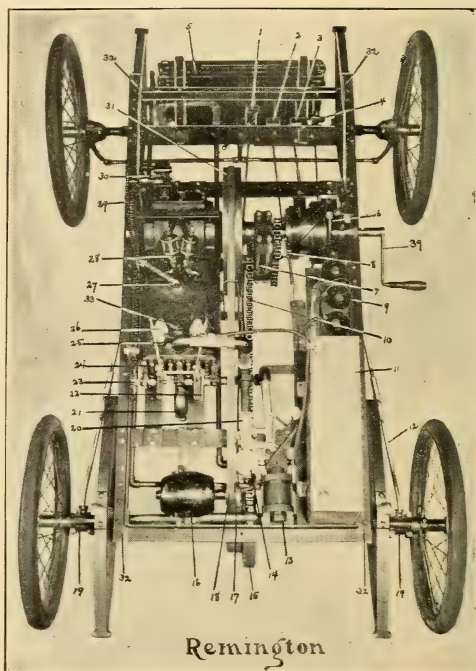
Side Elevation

two three-quarter elliptic springs in the front and two full elliptic springs in the rear. The front axle is of solid forged construction with ball-bearing knuckle joints for steering. The rear axle is 1 1/8" in diameter and runs in four sets of roller bearings, self-lubricating, with ball-bearing thrust bearings. The differential or compensating gear is enclosed in a gear case and attached to the rear axle.

The wheels are of Weston-Mott make, described as their No. 1 1/2, having extra heavy hubs and extra heavy spokes. They are 28" in diameter with 2 1/2" or 3" pneumatic tires as ordered. The steering is with the side lever and the operation of the various speeds of the

vehicle is controlled by foot levers which is a Remington patent and which device takes all of the ordinary levers out of the hands of the operator. The planetary transmission gear is used, giving two positive speeds forward and one reverse. Variations in the speed of the vehicle may be easily secured by a unique regulation of the speed of the motor, which has range of from 300 to 1,000 revolutions per minute. The speed-changing device to the motor, together with air and throttle controlling of gasoline, as well as the battery switch, are all conveniently placed, which makes the Remington carriage one of but a few which can be easily operated by anyone after a few trials.

The motor is of two-cylinder four-cycle type, with the head and cylinder cast in one piece.



Plan View

The transmission gear is on the same

The sparking device is of make-and-break principle with platinum points; is positive in its operations, simple in adjustment, and not easily thrown out of order. Large size Columbia Dry Cells are used in starting, after which a very complete specially constructed Dayton dynamo is used. The water tank is located in the body and the radiating coils are placed in the front of the carriage and above the front axle. The water circulation is successfully accomplished by means of a small geared pump operated by the motor. The motor valves, both inlet and outlet, are each in a cage by themselves, so that it is possible to remove any one of the four valves without disturbing the other three.



## KEY TO DETAILED ILLUSTRATION

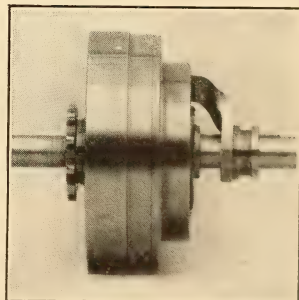
1, Brake lever ; 2, slow speed lever ; 3, reverse lever ; 4, high speed lever ; 5, radiator ; 6, transmission gear ; 7, counter-shaft ; 8, counter-shaft chain ; 9, batteries ; 10, main driving chain ; 11, water tank ; 12, radius bar ; 13, spark coil ; 14, carbureter ; 14, compensating gear ; 16, dynamo ; 17, dynamo governor pulley ; 18, dynamo belt ; 19, roller bearing pockets ; 20, wire gauze safety connection ; 21, exhaust pipe to muffler ; 22, sparking lever ; 23, valve to igniter cam shaft with sprocket ; 24, valves ; 25, intake connection ; 26, igniter plug ; 27, water connection ; 28, sight feed oilers ; 29, cam shaft pump chain ; 30, pump ; 31, main fly-wheel ; 32, angle-iron frame.

## CHAMPION SPEED CHANGING CLUTCH

THIS is a very compact clutch for use in connection with gasoline driven automobiles, and which the makers offer as a thoroughly "tried and proven" device. It is attached directly to the motor shaft and at high speed no gears are running. This does away with the noise due to this cause, which is sometimes very annoying.

There are two speeds for both ahead and reverse, the slow speed being designed to give 6 miles per hour, and the reverse is at the same rate. As will be seen the entire gear is inclosed in a dust proof case measuring  $9\frac{1}{4}$  inches in diameter by  $7\frac{1}{4}$  inches long. All gears are cut from the solid, are always in mesh, and run in oil.

It is made by the Champion Manufacturing Company, 479 Hancock Street, Brooklyn, N. Y.



Champion Speed Changing Clutch

The Searchmont Motor Company of 1231 Orkney Street, Philadelphia, are steadily turning out touring cars. These are well illustrated in their new catalog which is well worth sending for.

## An Engine Maker's Catalog

THE Mason Regulator Company, Boston, Mass., have issued one of the neatest little catalogues we have seen, describing their automobile engine. This is illustrated in the best manner, both as a whole and in parts, each part being shown, numbered, named, described, and priced.

Among other things it says : "Your automobile can be no better than its engine. It is good or bad, according to the character of the engine, for the engine is the pivot wheel of the whole machine.

"It's hard to describe a 'Mason' engine on paper ; it isn't a paper orator. It's in actual everyday work, over all kinds of roads—hilly, level, rough, smooth, mountain, seashore, or city—that it pleads its case most eloquently.

"Now about the price. This is a delicate subject, for an engine is cheap or dear, not according to the price paid for it, but according to the quantity and quality of the service which it renders in return for the price paid." This and other like information for the "Autoite" as they call him, make it an extremely interesting catalog.

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The American Rubber Works Company, makers of the whale-bone tire (which seems to have some features that automobilists have long been seeking) have leased the factory of the New Brunswick Rubber Company and are thinking of buying it in order to locate there permanently.

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Mr. R. B. Bramwell, so well known in connection with the De Dion Company, has associated himself with the International Motor Car Company as advertising manager at Toledo, O.; vice Mr. Stuart resigned. His many friends will be pleased to note his new connection and wish him every success therein.

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The latest topic of discussion in France relates to the sex of the word automobile—shall we say *he* or *she*? The majority of votes are cast in favor of the masculine, and it certainly seems more apropos to designate a powerful machine in this manner ; women are seldom mechanical by nature.







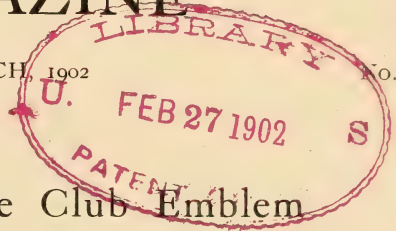
AUTOMOBILE MAGAZINE

# THE AUTOMOBILE MAGAZINE

VOL. IV

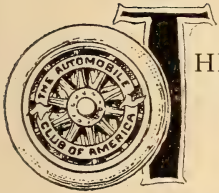
MARCH, 1902

No. 3



## A Plea for the Club Emblem

By R. CHESWICK PETERS



THE club badge should be to the automobilist what the club signal is to the yachtsman. Unfortunately this is not the case, in America at least. An attempt by the writer to collect fac-similes of all the automobile club badges in this country by a personal appeal to the clubs for copies of their badges, resulted in the securing of just two, that of the Automobile Club of America and of the Buffalo Automobile Club.

In most instances the request was entirely ignored; in a few cases the club acknowledged the receipt of the communication but regretted it could not comply therewith for various reasons, usually because the club had no badge. So the result of the badge collecting attempt was that so far as I have any official knowledge there are but two out of the thirty odd automobile clubs known to exist in this country which have badges.

In direct contrast to this experience at home were the very prompt, courteous and complete responses received from European organizations. In not a single instance was the writer's letter allowed to remain unacknowledged, and in no acknowledgment of it did the club official replying put his club on record as being unprovided with an emblem of some kind. To the contrary, I am of the opinion that in not a few instances the badge was really about all there was to the organization claiming it, but, whether this was true or not, invariably

there was shown a pride in the insignia which was a thing utterly lacking in American organizations.

To supply me with copies of their badges many of the foreign club officials sent me pen and ink drawings of them, and in not a few instances water-color sketches thereof, which were veritable works of art in their way. From the forty or more examples I received of these, I have here reproduced some of the most striking ones, to show the wide range of their designing.

Of course, it is but natural that in the older countries, where for generations people have studied heraldry in all its branches—and in my opinion the club badge is not an altogether unworthy branch thereof, — the club emblem should be given a prominence it can never expect to attain in this



country. Here heraldry is a thing the ordinary man leaves to his stationer, being content with what that individual does or does not do for him in the line of crests, emblems, and the like. When the ordinary American gets the stationer's idea of what the emblem or crest should be, if he likes the looks of it, he pays the stationer's bill therefor, and forthwith orders the emblem placed on his stationery, carriages, plate, and the like. Then he goes on his way without further thought in the matter.

To men of the New World armorial bearings, no matter whether they be proper or debased, are merely ornaments, things they procure when fortune has smiled upon them sufficiently to make them forget they are made from the common clay, and to believe that they are a superior sort of porcelain made from a Kaolin from which only one who has made his "pile" can expect to come.

While the foregoing reasons may or may not account for the manifest lack of interest shown by American automobile clubs in the designing and the employment of artistic emblems, it is nevertheless to be regretted that such an apathy does exist. To the enthusiastic club man, and he is the only kind worth having, the badge of his organization is something to be proud of. It is to him what the flag is to the soldier, a thing to be looked up to, fought for, honored and



protected. This begets loyalty, enthusiasm and self-sacrifice, without which no organization or cause can prosper.

For a man who owns a yacht to be unable or unthinking enough not to on all occasions aboard his boat fly the pennant which shows of



what club he is a member is for him to lay himself open to grave suspicion. Other yacht owners noting instantly the omission of a club emblem are at once inclined to believe that those who know the boat's owner best think him unworthy of being associated with, or else he himself is of so selfish a nature that he does not care to join a club.



In either event he is adjudged as being an undesirable acquaintance and as such is left severely alone by all other yachtsmen.

What is the consequence? It is a very rare occurrence for a yacht not to be enrolled in some club—many belong to a score or more—and yachting prospers. Its clubs are numerous and its interests everywhere are looked after and protected. What has been done



in yachting can be done in automobiling, which is to land very much what yachting is to water, if only the automobile club badge is made of more vital importance. If the automobilist could be made to regard the club badge upon his vehicle or on his cap in the same way

the yachtsman looks upon his club flag, all would be well. Then not to belong to a club, or not to display the emblem of the club to which he did belong, would at once place the unfortunate automobilist on the defensive. He would always feel called upon to explain and to justify his apparent inability to associate with his fellow men. Eventually this would become too onerous and he would be forced to join a club and compelled to display the badge thereof purely for a self-protective reason, if for no other. The very natural result of all this would be that the clubs would flourish and with their doing so the cause of automobiling would be immeasurably benefited.

As the matter is now the club man constitutes a very small proportion of those who own or use motor vehicles. Clubs are few in numbers, and are lacking in members and influence. The public, judging all things by their recognized representatives, misjudge automobiling by the weakness of its clubs and passes on uninterested and unimpressed by the new vehicle.

Until in automobiling a similar condition prevails to that in yachting, where the club emblem is a necessity, a thing to be sought after, prized and displayed on all possible occasions, just so long will automobile clubs and the cause they stand for, languish. All this gives the club badge an importance which automobile club officers and club men have not seemed to appreciate. Make your club emblem a badge of honor ; let it be known as something which guarantees the sportsmanship and social standing of its wearer, and at once you inaugurate the golden era of automobiling. Let matters go on as they are now going, permitting a club membership to be something which is neither a necessity nor of value to the owners, users or makers of automobiles, and you will make of automobiling a by-word in the realm of sport, and a weakling in the race for public favor.

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### Cure for That Tired Feeling

The busy doctor was hurrying down the street when he was stopped by one of those individuals whose constant aim it is to save a penny.

"Doctor, I am all worn out and sick and tired. What ought I to take?" said the seeker after "sidewalk" advice.

"Take an automobile," was the reply of the unfeeling, but not unsophisticated man of medicine.

# Vagaries of a Vermont Automobile

By W. D. WOOLSON



AMONG the many interesting articles that appear upon the pages of the *AUTOMOBILE MAGAZINE*, none are of more interest to me than those narrating the experiences of that ever increasing army of automobile owners and users ; perhaps this is because in moments of reflection I feel as if I too belong in that army, or perchance it is because reading these articles partially convinces me that there are others beside myself who do not know it all.

Possessed of these ideas, I make bold to pay an installment on my debt of gratitude to these writers of experience by giving a few experiences from life with the automobile up here in the woods of Vermont, where macadam roads are as scarce as golden streets, and the art of the road-maker consists in periodically scraping the sods and stones into the center of the path, and making water bars across the highway at every conceivable opportunity.

My first vehicle was a steam one and I had sold it. I lived upon investigations for the next month. No buyer of a horse ever examined the teeth or the hoofs of his intended purchase more carefully than did I the workmanship and the material of the various makes of vehicles. I believe there is an old legend of a man who felt so strong that he elected to fight the devil. I did not select the devil as a thing to wrestle with, but I did choose a gasoline vehicle, and I often think may be the other chap had the softest job in his devil beating.

After my previous experience with a steam vehicle, the confidence with which I tackled that gasoline one was simply sublime, you couldn't possibly call it anything else. My second choice was a single-cylindere, model C, Packard, weighing a ton. It was delivered at Boston, and at the beginning of a bright July day, just after a rain. I started for my home in central Vermont with a representative of the



makers to aid me. That ride was a dream. Not even the adjustment of a nut was required on that trip of 136 miles, even though it was over a very hilly country and roads which were not of the finest.

We made the trip in a running time of 8 hours and a quarter, and that with a vehicle just out of the factory, with the paint not yet dry on it, certainly was phenomenal. Once we were sent out of our way, and had to run up a mountainous road near Keene, N. H., using our hill-climber continuously for  $1\frac{1}{2}$  hours. That was the only time I ever saw the cylinder cooling water get hot enough to boil. Coming down the other side of this mountain, my companion seemed to think it a religious duty, as well as a real pleasure for him to go as fast down that mountain as the combined forces of gravity and the engine could drive that heavy carriage. I finally persuaded him to bring the speed down to a modest 40 miles an hour at least until we had reached a road which had a few less water bars (thank-you-marms), and a mile or two more of straightness in it. I never rode a jack rabbit, but the way the vehicle jumped those thank-you-marms was as near the sensation as ever I care to come.

In my stable, my horses took the arrival of that automobile much to heart, and five of them almost died with some form of distemper the next month. Time cures all things, even horses, and now those faithful beasts of mine have so far recovered that they are occasionally kind enough to haul their rival in, when it has a bad attack of heart failure. My hostler did almost as much kicking as his four-footed charges. He insisted that he had to hunt for the horses in the hay loft, because they invariably went up the feed spout every time I started the engine in the stable; and when I asked him to wash that automobile, he fainted dead away, and revived only enough to give notice of his departure.

Being thus left to my own devices, I had many pleasant rides in that vehicle, and some mighty unpleasant experiences under it. One thing I have had duly impressed upon me, and that is, unless you have an urgent engagement in the road directly in front of the dasher, you don't want to throw in your low gear when the carriage is running at any speed. This is a simple matter. It is so simple, in fact, that any one would know it if he stopped to think about it, but I presume I must have been as dense as a door mat, since I nearly disemboweled myself on the steering column in finding it out by experience.

My first real trouble was with the friction clutches, which being enclosed and the oil hole plugged, got to cutting before I was aware

of the trouble ; but on returning them to the makers of the carriage, they sent me new ones gratis. Right here I want to say that the treatment the makers have invariably given me has in every instance been courteous, liberal and efficient. It is worth the price of the carriage to know that there are some manufacturers who are interested enough in the successful operation of their vehicles, after they have



got your money, to do what they can to remedy any dissatisfaction on the part of the owner. My experience with my first vehicle had almost made me doubt this.

The next jar to my routine of pleasure was experienced in a neighboring town, after an eight or ten mile run. I had my wife and our three cherubs on board, when suddenly sundry noises from beneath the cushion made me head the vehicle for a side street. I had

a vague feeling that the motor was about to have a spasmodic attack of indigestion. Scarcely had I gained the coveted seclusion of an unfrequented thoroughfare when, with a rip and a groan, the motor stopped. It only took a glance at the engine-cavity to show that one of the bolts holding the cap of the crank-pin box had worked back about a turn. This play had broken the other bolt off at the juncture of the cap and the box, allowing the cap to swing around and release the piston, which, at the next explosion, shot through the lower casing, but fortunately doing no other damage. It was an easy matter to transfer my erstwhile passengers and unwilling deserters to the next home-bound electric car, and after this to secure some new bolts, replace the cap, and arrive home two hours late for dinner.

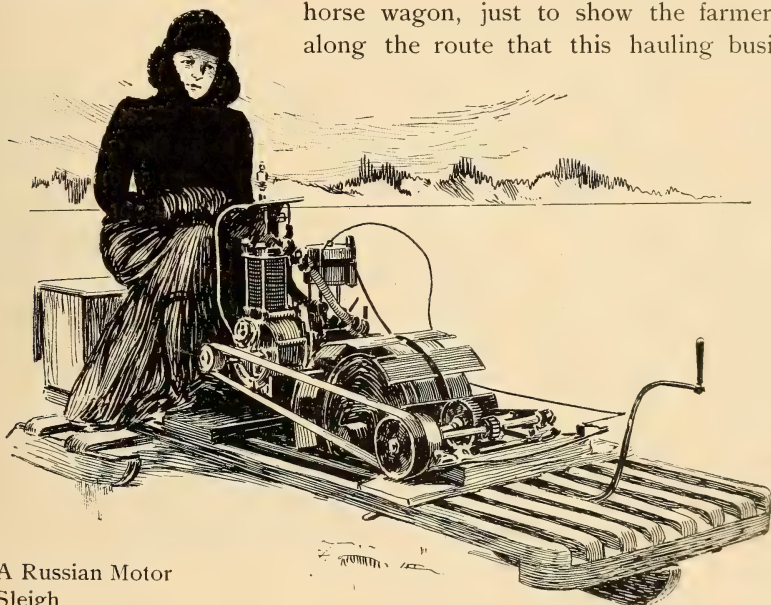
Up to this time I had had no ignition troubles of any account. Of course, as a matter of physical development, I had at times turned the crank to the amusement of the crowd, but never had run the carriage very far by this method. Nevertheless, it came at last. I had started early one morning to run to a fair in a neighboring town. I never saw the carriage do better than it did for about ten miles through the beautiful scenery along the Connecticut River. Suddenly all my interest in the beauties of nature ceased, and with sundry skips, the engine stopped dead.

I went over the wiring carefully, and took out the spark plug, but no spark; tested the batteries, found the voltage all right. Pushed the vehicle off the road and into the shade, just to gain time to think, tried the spark again, and got a good one. Started the engine, and got back into the road, and incidentally into the sun, when another skip, and another stop. Took out the spark plug, no spark; made a few oral observations, there being no one in earshot. Took off my coat, and turned the crank about nine hundred and ninety-nine times without a response from the engine. Fearing I would develop a hot box, I discontinued that form of motor improvement for the time being. In short, I worked all that day with the same results—nothing.

Went home that night by four-legged horse power. Came back the next morning with a man, and together he and I fooled away another day. Same result—nothing. When it got dark enough we hitched the old horse on and hauled that automobile home. Somehow it leaked out that we were coming, per hay motor, and several friends met me in the village square with an ovation that was entirely uncalled for. This two days' experience was a severe shock to my



moral as well as motor growth. The third day, however, I found the cause of my troubles. The jump-spark coil had a break in the inside wiring, where two wires were joined together in the coil. These had come apart so that the vibrations of the engine would occasionally bring them in contact. This was when I would get a spark, but the constant vibration would soon throw them apart again, and that was when I didn't get a spark. The next day when everything was going lovely once more I went down with the automobile and drew back the horse wagon, just to show the farmers along the route that this hauling busi-



A Russian Motor  
Sleigh

ness was a reciprocal one in which the automobile asked from the horse no aid it could not return.

Frankly, I have not had the success with the jump spark that I would like, doubtless, on account of my lack of grey matter, but from my experience with both systems, I would much prefer a simple form of touch spark, and current furnished from a dynamo, with a small storage battery in circuit. This arrangement is simpler to maintain, and can be put in shape more quickly than the other when it gets out of order on the road. If tripped by a spiral cam, you can also get the automatic or manual advancement or retarding of the spark.

The carburettor was the next thing which taught me mental

humility. Up here in the primeval forests we get from the local dealers as gasoline any liquid that has ever in the course of its existence been anywhere near a gasoline barrel, with the very natural result the amount of water and other extras in the fluid give no end of trouble where float feed is used. Eventually I found I had less trouble if I used a hybrid device, which was a cross between an atomizer and a carburettor, wherein a constant level was maintained by a pump of comparatively large capacity. With this arrangement I can burn anything, even the backwoods fluid the sellers call "gasoline" and the buyers call — well, no matter what.

I have only run up against one condition with this device of mine which gave me trouble and here it is. Being called in haste to a town about 16 miles away, I did not stop to fill the gasoline tank from my own supply. So upon arrival at my destination, my tank being nearly emptied by the run over, I bought 5 gallons of so-called "engine gasoline," and with the stuff filled the tank. It was a bitter cold day, with a strong wind blowing, and everything frozen hard, but as I had taken the precaution to fill the water in the cooler full of calcium chloride, I let the vehicle stand exposed to the weather for 3 hours, while I completed the business which was the cause of my journey. When I started at about 6 o'clock in the evening for home, the motor wheezed and fussed considerably, but went along after a fashion for about 3 miles, then stopped. I got out and tried the spark, it was O. K., looked into the carburettor, and found it almost empty, tried the pump, and found it would deliver nothing but air, disconnected the supply pipe, and found it was frozen full of ice. The thermometer was steadily dropping, and my courage and temperature were racing with the thermometer for the zero point.

I finally thawed out the pipes over a carriage lamp. It was a delightful experience. I never remember but one other occasion, and that was last winter when I was trying in vain to get warm in a hotel in England, that the lurid fires of the nether world seemed so enticing as they did on that pipe-thawing job. But now the pipe was clear, I was unable to get any gasoline from the tank, although the gauge showed the tank was nearly full. Finally I got desperate, punched a hole in the top of the tank, and found about an inch of solid ice completely covering the bottom of the tank. We took turns in thawing that supply pipe, and breaking the ice in the bottom of the tank with a stick thrust through the hole we had made, until 2 o'clock in the morning, when we finally got home. If any one had offered

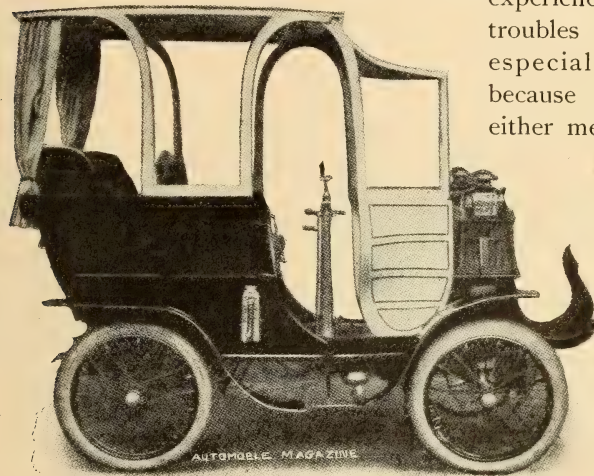
me a recipe that would keep country (Vermont) gasoline from freezing, I would have paid high for it that night.

The only thing that I have found radically wrong with my gasoline carriage has been the exhaust cam, which did not allow the valve to open soon enough, and permitted it to close too quickly on the stroke. By changing this I made a great difference in the ability of the engine. There was also a weak place in the design of the axle which caused it to break. This, with the trouble I have had with the exhaust valve stem unscrewing, so that the cam will not allow it to seat, completes the list of the shady side of my automobiling

experiences. The last two troubles I have named are especially exasperating, because the appearance of either means a long delay

usually, where farming tools and free advice abound, but nothing else.

I am often asked as to the cost of repairs and maintenance. This always seems to me a good deal like asking a fellow



An English Idea for a Removable Top

how much it costs him to live? or what his doctor's bills are? since it all depends upon where and how he lives. On these hilly Vermont roads I figure that I average about fifteen miles on a gallon of gasoline. The cash cost of maintenance has been with me exceedingly small, because I have a man from my factory who takes care of the vehicle, and keeps it in running order for the use he is allowed to make of it when I have no need of it. He also does the repairing, which has for the past season only been the changing of the clutches and a new axle and brake castings, which all told have not cost me in money over \$10. I have doubtless spent between two and three hundred dollars in experimenting and trying to perfect some devices which I thought would be improvements in the vehicle, but which were *not* in any way



necessary to either its maintenance or its operation. I have had no tire troubles excepting the collapsing of the inner tube of one of the rear tires, which was replaced by a new tire from the factory free of charge. I think the way I am situated one hundred dollars would cover all my expenditures for maintenance and repairs for another season, providing I did not have a collision with something, or did not get so far from home as to be at the tender mercies of city repair shops.

When I placed the order for my present carriage a member of the firm wrote that he was glad to have it go into the hands of a manufacturer. I replied that it was the worst possible place he could put the vehicle, as it was all I could do to keep from tinkering with it. I have, at the cost of some effort, refrained from giving you all the joys and sorrows that came to me in connection with said improvements. They are not worth much to those who build automobiles, but they have been a great aid to character building, and while I think I know something more about a gasoline engine than I once did, I can with equal certainty, take my oath that there are a great many things about the engine that I don't know, though I certainly thought I did at the start. Neither have I gone into detail regarding the endless source of pleasure that the conveyance as a whole has been to me, or the peculiar joys that have been mine in connection with its use. The enjoyment of the first Boston trip has been repeated many times since, with just variations enough to make it intensely interesting. As to this particular make of vehicle which I was fortunate enough to select, after Summering and Wintering it, I can swear by it and by the men who built it too, and the vehicle is not for sale either.

I send you herewith a couple of pictures which will show you how I am endeavoring to inculcate in my family an early knowledge of the automobile. If enthusiasm and anxiety to learn count for anything, I feel confident that I have in training the finest batch of automobile experts Vermont or anywhere else has ever seen, though it will be some time yet before the young man you see in the picture will be allowed to pilot a big racer. He's like his father, though, in being perfectly willing to undertake the job even now.

I am not fortunate enough to be the possessor of a degree given by any institution, so that I cannot follow my name with even an M. E. or an M. D., but in view of all the many fool things I have done with an automobile, I feel that it is no more than fair to the motor vehicle industry that my name should be followed by D. F. in large letters.

## Part of a University Education

**N**O common school education can any longer be considered complete unless it supplies those it seeks to educate with at least a fair working knowledge of the power, possibility, etc., of the motor vehicle.

This being true of even a common school, how very much more must it be true of a university? Evidently some such idea as this possesses Messrs. Clark Fosdick, George C. Cannon, P. A. Proal and



R. E. Hammond, students in the Lawrence Scientific School, Harvard University.

These young men are not merely wealthy owners of automobiles, the construction, equipment and designing of which they are content to remain entirely ignorant of. To the contrary the young scientists are making a very close study of the automobile in all its phases. To enable them to do this in the most thorough fashion the quartet own the house in Cambridge, Mass., here shown, which contains an elab-

orate workshop for building and repairing vehicles, besides every convenience for any social affairs the owners may care to indulge in.

The quartet disclaim any pretence of representing the university, and, far from being a club, the members prefer to be known only as individuals, running and looking after the six or more vehicles they jointly own for their instruction and amusement solely. By some they have been called the Harvard Automobile Club. This name, they say, is one given them by others and not by themselves. There are other men in Harvard who own automobiles, and who at some future time perhaps may join the four and from this a club may grow, but there is nothing of the kind in the present arrangement.

The quarters of the four men are in a good sized building, having ample room for the vehicles on the ground floor, above which is a well equipped workshop and a small parlor. Not content with the vehicles they already own, the young experts are building another which they hope will be very much faster than any which they now own. The new racer will be of 20 H. P., and will be built according to original ideas conceived by the young scientists.

The lines along which this unique association accomplishes the ends for which primarily it was formed are ideal. If one of the members conceives an improvement of a motor vehicle or any portion thereof which seems to him to be feasible, after thinking the idea over and working it out theoretically, he proceeds to put it into a concrete form. When the new idea is finally ready for testing the best of the unimproved vehicles remaining is brought out and pitted against the one equipped with the new idea. In these tests, friendly though they be, there are absolutely no favors shown the new idea. The sole reason for each test is to see whether the new is an improvement on the old. If the tests show merit in the young inventor's ideas his partners then turn to and aid him in perfecting them.

Faults as they develop are noted, and efforts are made to overcome them. Proceeding along these lines the young engineers have succeeded in turning out some improved vehicles which have an unusual amount of merit. One of these vehicles, a steamer, belonging to this quartet, showed considerable speed at the Providence races last fall, easily winning in its class.

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The history of the evolution of the practical automobile shows that the end of one inventor's failure is often the beginning of another man's success.



## The Mastodon of Mechanical Vehicles

**C**ONTRAST this American made and used 50 H. P. traction engine and wagon train with the winners of the recent British military trials appearing elsewhere in this issue. While the American and the British models are radically different, because of the difference for which their use is intended, they are each a distinct advance in the solution of the problem of commercial mechanical traction.

The vehicle here shown is made by the Best Manufacturing Co. of San Leandro, Cal., and was built for employment in the lumber



regions where roads are more noticeable through their absence than through their presence. The tractor here shown draws the four wagons, each loaded with 12,000 feet of lumber, a total of 48,000, over any and all sorts of roads, up and down all kinds of grades at an average speed of three miles per hour. Understand it is not said that this can be done ; it has been done for more than a dozen years and is being done to-day.

This engine and wagon train have been especially developed to meet conditions as they are, not as they may or should be. All over the Pacific Coast these road engines and trains are to be met with, and invariably they have supplanted animal traction in places where the absence of all roads seemed to make the employment of other than animal traction a physical impossibility.

The engine is equipped with a modification of the vertical and horizontal boiler, giving 480 feet of heating surface. Either wood, coal or oil can be used for fuel. Attached to the boiler are steel bed-plates, 6 x 1 inch, which form the main frame for all the machinery. To the bed-plates are attached duplex or twin engines geared to the main inner-cogged periphery of the two large drive wheels. Five gears, pinions and wheels constitute the entire gearing. The height of the drive-wheels is 8 feet, with iron spokes one inch in diameter. The tires vary according to service conditions required of them, from 24 to 40 inches in width. The front or steering wheel is 5 feet high with a tire 14 inches wide. Total weight of 50 H. P. tractor, all complete, 15½ tons.

Despite the seeming clumsiness of these tractors, at the touch of the throttle lever, they will move forward or backward, an inch at a time if desired, or they will walk off with a train of wagons, carrying 40 to 50 tons of freight up and down any grades where it is practicable for teams to do the same work. Or, if required, they will roll across a plowed field, or over other ground as difficult to travel over, almost as fast as a man can run. They will go slowly down the steepest hills, climb over shrubs and logs in forest, or lift themselves up an almost perpendicular bank 18 inches or more in height. The use of an upright boiler permits these engines to ascend grades of any inclination without uncovering the crown sheet.

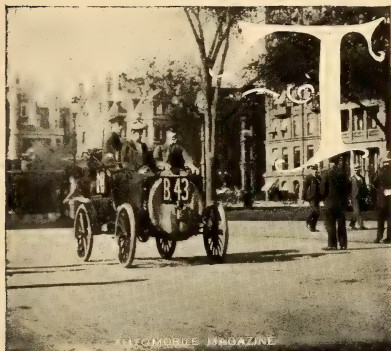
The following table gives a detailed estimate of cost (actual cash outlay) of running one of these 50 H. P. engines ten hours in California, hauling freight. Owing to the different prices of fuel and labor in different parts of the country, it is impossible to give an accurate cost for all sections; however, the following table will serve as an estimate on which to base such calculations:

Engineer,	.	.	.	.	.	\$ 4 00
Fireman,	.	.	.	.	.	2 50
Oil for Engine,	.	.	.	.	.	50
1 Ton Coal,	.	.	.	.	.	9 00
Wear and Tear,	.	.	.	.	.	2 00
						<hr/>
Total Expense,	.	.	.	.	.	\$18 00

Those who talk most about what they have done in automobiling and what they expect to do, very rarely have much to tell about what they are doing in it.

# Some Sparking Ills and Their Cures

By REGINALD WALES



To serve as a thoroughly comprehensive illustration ; to comprehensively portray the various road experiences with ignition ; to give some fellow sufferer an idea as to the characteristics and the manifestations of the respective imperfections of the present system of using the elusive electric spark, I have been tempted to cite cases wherein these defects and myself have both played important parts,

and to give as best I may the conditions which led to my discovery of the real cause of the trouble, and stating at the same time the methods I found satisfactory in correcting them. Since the effect of one impaired portion of the generative agency is often more or less synonymous with another, it becomes a matter of considerable complexity to discriminate correctly between the possible causes without first employing more time than could conveniently be given it by the ordinary automobile sufferer. It will also be observed there is a vein of similarity running through the entire list of descriptive cases which follow :

## BROKEN BATTERY ROD

The vehicle was a well known make of explosive motor, using eight equally as well known make of fluid batteries which, up to the time in question, had shown no tendency toward exhaustion nor otherwise developed any inequality. The day was delightful, the sun being bright and warm, the air balmy and refreshing. Along rushed the vehicle at an eighteen-mile pace, just as smoothly and as nicely as could be. I was enjoying it all when, upon passing over a small obstruction, so small as to be scarcely noticeable, there was a most decided decrease in the speed, and as soon as the momentum was destroyed I found myself no longer spinning through space.

Many sad experiences in the past had made me cautious and I had for some time religiously carried with me a small but neverthe-



less, thoroughly reliable battery gauge. With this I now began making tests of the series generation. Having first made a test—using the entire number as but one factor—and ascertaining there was no current whatever emanating from the battery, I at once began testing each individual cell involved in this series and soon found one which failed to register upon the gauge. This I at once cut from the circuit and thereupon proceeded on my way without further delay. A subsequent and more careful examination showed the rod sustaining the zinc element had parted, probably from the passage over the slight obstruction noted.

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#### BROKEN TRANSMISSION WIRE

During a pleasure jaunt my motor which, for the last several miles, had not been operating any too favorably, finally came to a dead stop. The batteries were apparently in a faultless condition—since a satisfactory flash could be elicited at their poles—yet none of this current could be induced at the ignition center, from which I inferred that whatever the defect was it must necessarily be somewhere between these two points. In accordance with this train of reasoning I made a close examination of the two transmission wires, these suggesting themselves to me as offering the greatest, or in fact the only, excuse for the derangement. That I was not far astray in this was shown by my almost immediately discovering one of the wires broken beneath the insulation. Such a break is not only unusual, but extremely difficult to locate, unless one has had considerable experience and profited by it.

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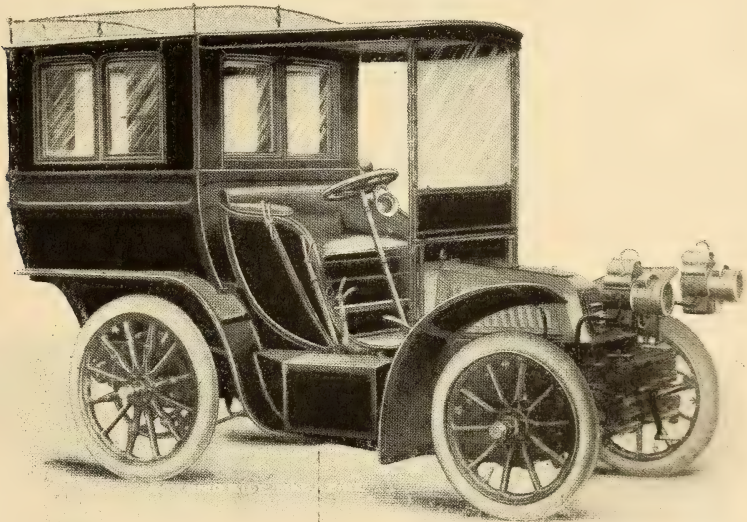
#### DEFECTIVE SWITCH CONNECTION

“We are too prone,” said a really very able automobilist to me recently, “to attribute all mishaps to the batteries alone. I am willing to admit, however, these are ever ready to furnish a generous measure of annoyance. I’ll break off a fragment of my experience in this direction and let you taste of it to see if you like it well enough to speculate yourself sometime. I was once making an extended tour in the State of Wisconsin and had covered four or five hundred miles without the least sign of trouble, when one day the vehicle stopped in the most unceremonious manner—my consent wasn’t forthcoming either.

“I knew mighty well ’twas no use crying over the thing, for you’ve got to expect something of the kind now and then in automobiling life, so I donned my greasy regimentals and got right down

to business. To make a long story short I spent a good half day on the thing, confining myself to the batteries, the connections, the transmission wires, the sparking device, and Heaven only knows what not, but like a blamed fool, which indeed I was, never once bethinking myself of the switch, that innocent, simple looking contrivance.

"I had grown desperate from my non-success and had gone forward to the seat to get another tool, when my eye happened—just happened mind you—to fall on that controller. Wonder if anything could be the matter there, thinks I. Hardly believe so, came second



Unloosening four set screws allows the entire cover to be taken off of this Mors, leaving it an open wagonette

thought ; just as though some one who was wanting to throw me off the track was whispering in my ear. I'll just look anyway, thinks I again—and look I did ; what d'ye think I found? Nothing else than that one wire had pulled clear out of its binding post ! "

The narrator climaxed with an oratorical wave of his cigar and glanced at me interrogatively. I gravely allowed that dealing in this sort of calamity stock was not to my liking. The foregoing is quite sufficient, I believe, to acquaint the reader with the possibility of a defective switch connection, and I sincerely trust his experience will never be that of my friend of whom with all his ability I had really expected better things.

## The North Jersey Automobile Club

PATERSON, the State of New Jersey, boasts of a club, automobile Club, date, and which is membership. The members the wealth-city, all of whom are ents of automobile

Paterson saw its three years ago, when of the proprietors of motive Works, be-

user of a gasoline carriage. In a short time William H. Fletcher joined him with a steam vehicle, and after that, the rush for the new locomotion was on. In April, 1900, the number of motor vehicles in Paterson



Charles D. Cooke, Pres.

Lyons of America, the North Jersey Au-second to none in the thoroughly up to growing rapidly in club has among its iest men of the silk enthusiastic adher-road locomotion.

first automobile only Charles Cooke, one the old Cooke Loco-came the owner and



Edward T. Bell, Jr., Secretary and Treasurer

had become numerous enough to warrant the formation of a club devoted to their interests, and at a meeting held at Mr.

Cooke's house, the North Jersey club was born. There were less than a dozen charter members, but the membership has rapidly



Frederick R. Reynolds, Chairman Board of Governors



increased and the organization has grown in financial strength and in influence.

The club was organized primarily to labor for the good of automobiling and for the protection and welfare of its members, or, as more definitely stated in its by-laws: "To seek the promotion of a



William H. Fletcher, Captain

social organization or club composed in whole, or in part, of persons owning self-propelled pleasure vehicles for personal or private use. To afford a means of recording the experiences of members and others using motor vehicles or automobiles so that all may profit by them. To promote original investigation in the development of motor carriages. To co-operate in securing rational legislation and the formation of proper rules and regulations governing the use of automobiles in city and

country, and to protect the interests of owners or users of automobiles against unjust or unreasonable legislation, and to maintain the lawful rights and privileges of owners or users of all forms of self-propelled pleasure vehicles whenever and wherever such rights and privileges are menaced. To work toward the encouragement and development in this country of the automobile. To promote and encourage in all ways, the construction and maintenance of good roads, and the improving of existing highways, and generally to maintain a social club devoted to automobilism."

The club's membership is divided into four classes, viz., Honorary, Life, Active and Associate members. In the first class, which is limited to twenty-five, are at present the President of the United States, the Governor of the State of New Jersey, the Mayor of the city of Paterson and the Director of the United States Road Inquiry.

The officers of the club for this year are President, Charles D. Cooke; First Vice-President, Vernon Royle; Second Vice-President, J. Edwards Barbour; Secretary and Treasurer, Edward T. Bell, Jr., and Captain William H. Fletcher. There is also a board of governors composed of four members, in whom the general management and control of the affairs, funds and property of the club are vested. These are at present Frederick R. Reynolds, William H. Fletcher, Robert Gaede and Heber Royle.

## 'Trying to Supplant the Mule

**A**S far back as 1868 the Germans saw the advantages of a military transport service which would not have its efficiency and usefulness limited by the power of an animal. Lacking at that time establishments of their own where such vehicles could be built, orders were placed in England for them, and later on, 1870, these British built German war transports did yeoman service against France.

Despite this proof of what could be accomplished by the mechanical supplantment of the horse, so voluminous was the red tape encircling the British war office, that it was not until nearly 35 years later that a sufficient amount of the tape was removed to permit of the British Government endeavoring to secure something of the kind for its own army.

Perhaps even a longer time would have been necessary had not such small items of expense as the importing from the United States alone of horses and mules to the value of \$13,483,052 during the last two years for use in South African war operations, hastened even British official action in an effort to find some less expensive and more satisfactory method of army transport. To procure this the War Office announced that it would award \$5,000 in cash prizes among the winners of a series of trials which would be based upon as near service conditions as it was possible to make them.

Eleven vehicles accepted the conditions; six of them failed to appear, and of the five remaining only three successfully overcame the obstacles, natural and otherwise, which were placed in their way.

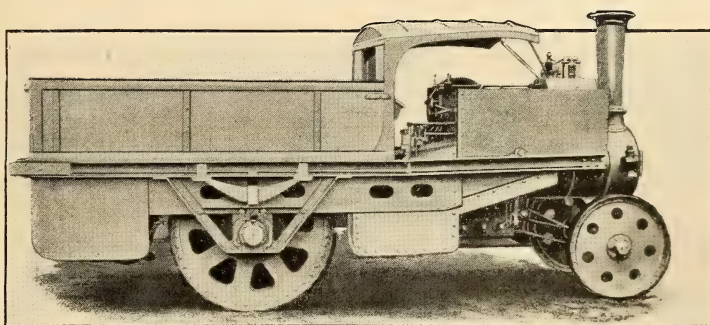
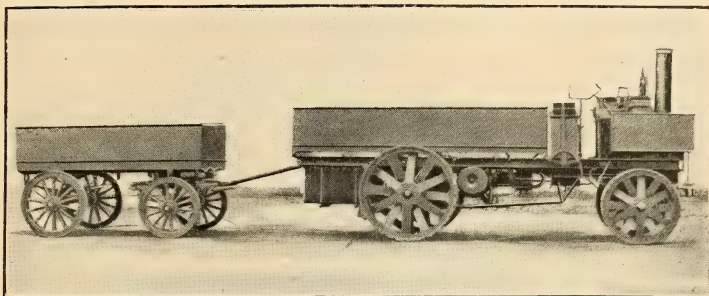
The prize winners shown in the accompanying illustration were awarded cash prizes of \$2,500, \$1,250 and \$500 respectively, while the first and second were purchased by the British government and will be at once shipped to South Africa for use by the English army there.

From the *Automotor Journal's* very complete account of the trials the following interesting details are taken :

"There is a somewhat curious discrepancy between the performances of the two most successful competing vehicles during the trials, and the ultimate awards of the Judges' Committee. The Foden, without any question, was the most successful in surmounting all the tests imposed, with the exception of the hidden ditch which lay in its course much like the proverbial snake in the grass, and into



Prize Winners  
In War Office Tests.



1. Thornycroft Steam Lorry
2. Edwin Foden & Co. Steam Lorry
3. Straker Steam Vehicle Co. Lorry



which it fell owing to the fact that it was as usual heading the field. We do not know whether this want of foresight on the part of the Foden was charged against it, the requirements of military authorities being proverbially exacting, or whether the apparent discrepancies between the performances of the Foden and the award made to it are to be explained by the results of the private inspection by the officials with which the tests concluded. We can only assume that the latter is the correct explanation. But in that case, and more particularly as the Foden Company by returning the second prize, evidently consider themselves as unjustly treated, it is to be hoped that the British War Office will see its way to publishing a full and comprehensive report of such a kind as will clear the matter up."

Another interesting feature connected with the Competition is the comparative failure of the Thornycroft vehicle, which had adopted a novel principle of construction, specially designed to produce a different distribution of weight from that usually adopted, the whole weight of the engine and the boiler being arranged over the rear driving wheels, which greatly exceeded the front steering wheels in diameter. The main object of this arrangement was to ensure sufficient weight being on the driving wheels when running unloaded over difficult ground or uphill. Incidentally it was also hoped that greater power of getting out of difficulties would also be conferred by this method of building. That the principle, as far as running up hill unloaded is concerned, was correct enough, is indicated by the behavior of electric vehicles of the Krieger type, in which most of the weight being on the rear wheels, the front wheels occasionally skid on a greasy incline.

The construction, however, in the present instance, was not effective in getting out of difficulties, but seemed rather to increase the tendency of the vehicle to remain ensconced in a hole once it got into one. In addition, this vehicle was designed to consume either oil or coke, and, though both were tried, neither was thoroughly satisfactory. It is evident that a boiler should be designed for either one fuel or the other. It is not likely that in small boilers either can be employed indiscriminately without loss of efficiency.

With regard to the actual trial conditions, the severe conditions thereof are worthy of detail. During the first few days of the Trials the weather was clear and cold, with the road surfaces firm, but inclined to be slippery. This condition of affairs was promptly succeeded by rains and storms which made the roads extremely

heavy; in fact the general conditions were as severe as they could possibly be. Loose macadam was encountered occasionally, but an ordinary well-worn macadam was the rule. The country through which the test routes lay was decidedly hilly, some severe gradients being encountered on each run.

The hill at Puttenham, for example, was short but very steep, the average gradient being about one in seven over the 400 yards under observation. The surface was a fair macadam worn somewhat by rushing water.

The cross-country test was conducted over a tract of land which requires a special description. The course itself was simply a sandy tract, and was approached along certain very rough roads leading out of the main road. The vehicles arrived, all with trailers, at an open space, where they were lined up. Trailers were here detached, and each vehicle, with a 3-ton load, descended an extremely steep grade of sandy surface, and crossed a marsh and stream, climbed a steep hill, and lined up, after having gone through the turning trial. This stage completed, they proceeded along a rough sandy tract, crossed a bog, descended a steep grade, and crossed a very marshy stream. A stiff hill was then encountered, and a second bog crossed; the track then joined a fairly good road, and the vehicles proceeded to the starting point. The first round of the tests was then concluded. The second was over the same course, but in this each vehicle hauled its trailer with a 2-ton load, making 5 tons total load. Arrived at the marsh, traversing paddles were attached to the driving wheels of each vehicle, and they were sent across about 400 yards of deep and sticky peat bog. On reaching the road the paddles were detached, and the vehicles returned to the depot. This manœuvre brought the Trials to a conclusion.

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### Over the Good-Intention Paved Highway

"This scorching business must be stopped," said the Queens County magistrate, "Mr. Keendervilt, you are fined \$50."

"All right, sir, here it is, but you may be a scorcher yourself some day."

"Never, so long as I live."

"I'll not dispute that point," observed the prisoner, as he escaped before the significance of his reply had percolated through the law-giver's brain.

## Millions for Macadam Roads, May Be

**P**OSSESSED of the singularly appropriate name of Bond, New York's State Engineer and Surveyor, Edward A. Bond, showed he was alive to all of the possibilities of his name by addressing the State Good Roads convention, held at Albany on January 29, in explanation of the proposition he had made in his annual report to have New York State issue \$10,000,000 worth of bonds for immediate improvement of highways on an extensive scale. Engineer Bond had a large map on which he showed members of the convention his scheme for a system of good roads throughout the State.

Mr. Bond favored the State issuing bonds to the amount of \$10,000,000, bearing 3 per cent. interest and payable in seventeen years, with the provision for annual payments by the State and counties to a sinking fund sufficient to meet both principal and interest within the seventeen years. Mr. Bond said that an expenditure of \$10,000,000 would construct upward of 1,250 miles of improved macadam roads throughout the State.

The convention promptly voted in favor of the proposition that the State should bond itself for \$20,000,000 for road construction in accordance with the Higbie-Armstrong act, the bonds to bear 3 per cent. interest and to run for seventeen years. If this scheme is adopted, according to figures prepared by State Engineer Bond, the State tax would be less than six cents on \$1,000 valuation, and if the money is spent in the various counties in proportion to their assessed valuation, it would be 17 cents on \$1,000 for the county tax, making the total tax, State and county, 23 cents on \$1,000; that is, if the tax was levied on this basis, in seventeen years both principal and interest of the bonds would be paid. Under the Higbie-Armstrong act, 50 per cent., or \$10,000,000 of the bonds would be a burden upon the State, while the counties would meet 35 per cent. and the towns 15 per cent.

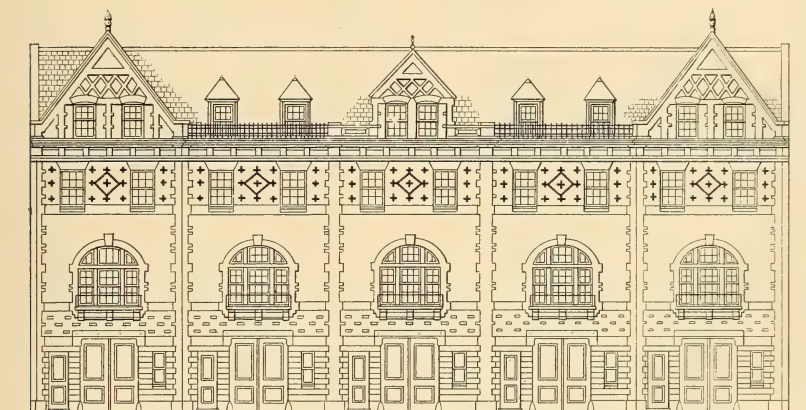
The proposition which was suggested by State Engineer Bond was for the State to bond itself for \$10,000,000, half of which would come on the State. He submitted to the convention a map showing 2,800 miles of road, half of which, he declared, could be improved for \$10,000,000. The convention concluded that half of the suggested improvement was not enough to ask for and doubled the amount of the proposed bond issue.



## Solving the Storage Problem

**T**O purchase a motor vehicle is not nearly so difficult as to properly house it after it is purchased. Until now the automobile has been the horse marine of carriagedom, and the former owner of the white elephant has been enabled to look at the present owner of the automobile with considerable satisfaction, appreciating full well the unpleasantness of his predicament.

So long as the automobile was looked upon only as a "horseless" vehicle its attempted housing in the places set apart for horse

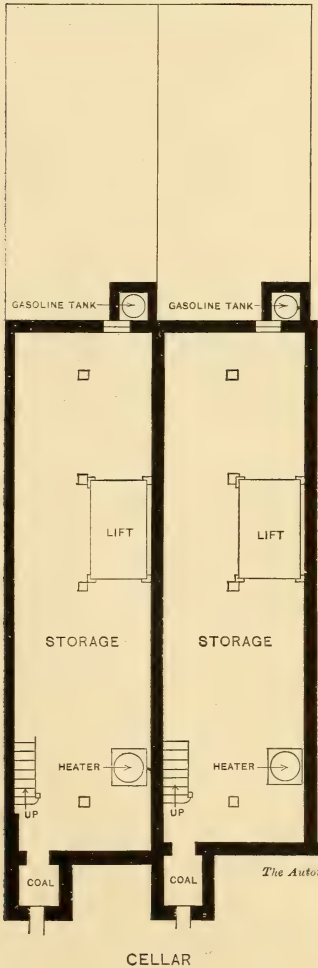


vehicles was but natural. With the passing of the day when the mechanically propelled carriage is either referred to or regarded as a "horseless" one, causes the need for some place especially constructed to house and care for it.

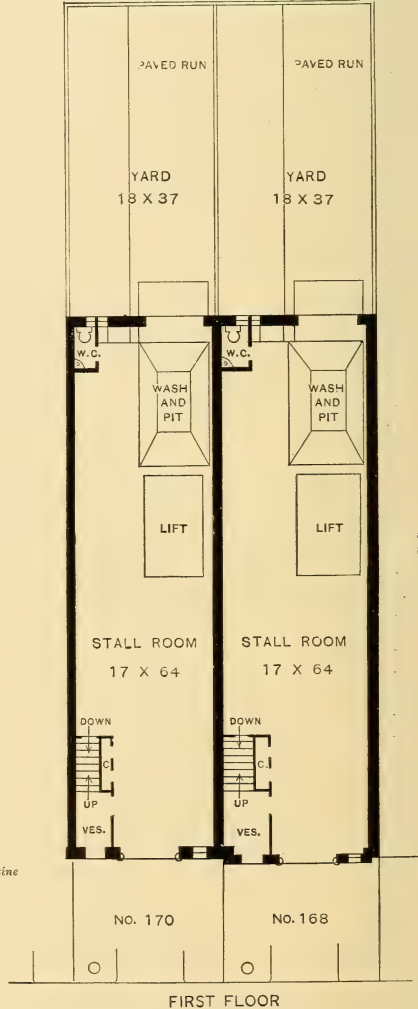
Stables built and used for horses and carriages had been tried and found badly wanting. The radically different demands of the mechanical motor and of the hay one made it impossible to properly attend to both in the same place and at the same time. Storage establishments temporarily afforded some relief, but the owner of a valuable automobile naturally objected to leaving so expensive a piece of property in a public place where it was subject to all sorts of danger at the hands of curious and ignorant persons. Nothing, therefore remained but that an entirely new form of building should be designed and built.

Recognizing this condition of affairs, and believing the time had

come when the man who had invested a small fortune in motor vehicles no longer cared to have his conveyances or himself subject to the inconvenience and annoyance of a public storage establishment, Messrs. Hill and Stout, well known New York architects, have



*The Automobile Magazine*

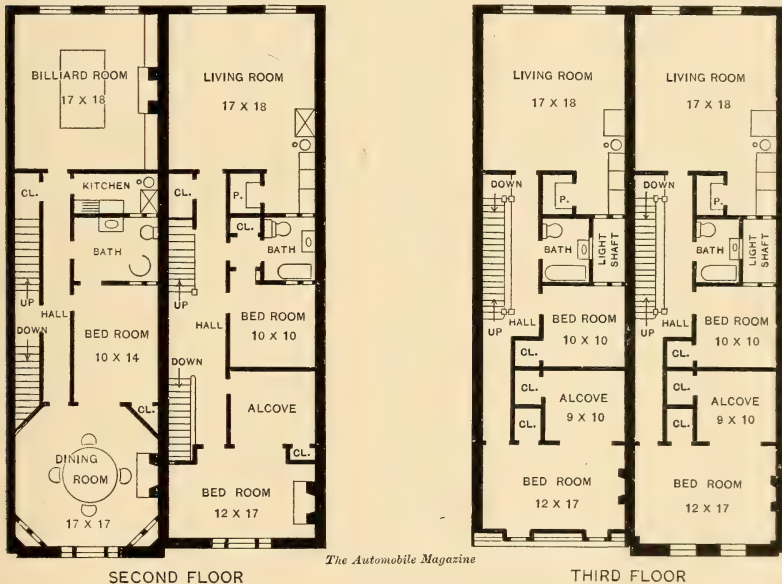


planned and are now erecting on East Seventy-Fifth Street in this city, five automobile establishments which mark the beginning of a new era in the story of the automobile's progress. From the moment these buildings are erected the motor vehicle achieves a direct

recognition of its individuality which for once and for all removes it from further treatment or consideration as a "horseless" vehicle.

From the drawings of the architects here shown, an accurate idea can be gained of how closely the needs of the new vehicle and the comfort of its owner and attendants have been studied out and provided for by Messrs. Hill and Stout.

Mr. Edmund C. Stout in speaking of these plans admitted that they had by some ultra conservatives been considered in advance of the times, but he believed them to be only the recognition of an



unsatisfied demand. Proceeding upon that idea Mr. Stout said he had met with sufficient encouragement to assure him that his idea was right.

"It was a much easier thing for me to plan these buildings than it was to give them a proper designation," said Mr. Stout, discussing the new establishments. "I was endeavoring to create something to take the place of a stable and when I had succeeded in doing this I could find no name for the substitute except 'stable.' This was unfortunate, but the designing of buildings, not the creation of words, is my profession, and so I made the best of an unfortunate condition of affairs and for the present these buildings will be 'automobile stables.'"



"In planning these buildings you will see that I have recognized how entirely different from a stable is the use to which they are to be put, as well as the possibilities offered thereby for the comfort of the owner and of his employees. I have in a way sought to give the automobile owner a building which is a combination of club and storage place. While this is perfectly feasible with the automobile owing to the cleanliness and absence of all noises and odors, the same is not absolutely possible where horses are to be cared for, hence a still further objection to calling these buildings 'stables,' which conveys an entirely erroneous idea of both their intent and their conveniences.

"If I am not entirely mistaken these buildings will meet with a prompt recognition on the part of automobile owners, and if I am not still further in error more than one of them will be used as bachelor quarters by their owners. In fact three or four motor vehicle owners jointly sharing the expense of one of these buildings on some sort of a club plan, would find the cost of doing so less than any other plan of housing and caring for their conveyances, while the satisfaction of having one's own establishment needs no comment as to its desirability.

"Coming to the plans in detail you will note that the first floor, on a level with the sidewalk, has ample room for at least five vehicles of even the largest size. A lift is provided capable of handling the heaviest vehicle and of lowering it easily and safely to the cellar, which, with its concrete floor and perfect ventilation, can be used as a supplementary store-room, thus greatly increasing the storage capacity of the building. At the rear of the first floor is the repair pit and washing place where the vehicle can be cleaned, repaired and overhauled in thorough fashion. Adjacent to the pit is a workbench where every facility for making repairs can be provided. Close at hand will be the charging apparatus so that the needs of electric vehicles can be conveniently attended to. Robe-poles, and closets for great coats, caps, gloves and such like, are located near the door, and at the foot of the stairs leading to upper floors.

"The plans of the second floor show two arrangements, either of which the owner can suit himself in choosing. If the owner wants to secure this part of the building for himself, and I can hardly conceive of his not wanting to do so, he will find at the rear a room about 17 feet square with a fire-place on one side, lighted by two large windows, suitable for a billiard room. At the front of the building is an octagonal room about 17 feet in diameter, with a large fire-place on

one side and a wide window on the street. This room may be used as a sitting or dining room. Off of it is an alcove of generous proportions in which a bed or lounge can be placed. Next to the alcove is a bath room, fitted with all the conveniences, including a shower bath.

"Next to the bath room is a small compactly arranged kitchen in which suppers or light meals may be prepared. A wide hall connects the dining room in the front with the billiard room in the rear. The entire suite is shut off from the stairs that continue on up to the chauffeurs' apartments above. These consist on the third floor of a large living room with an alcove in which is the gas range, sink, washtubs, pantry closet, etc. Three bed rooms and a bath complete the arrangement, all of which is thoroughly lighted and ventilated.

"The fourth story has two bed rooms in the rear and a front room larger than any other in the building, with a fire-place and generous store room or closet opening off of it, which could be used as a bed room. Another large closet or store room opens from the hall. This floor, as well as the third, could be used as living quarters for the chauffeur or machinist, or for storage or spare bedrooms or for any other purpose that odd rooms in a house would ordinarily be used for. The individual ideas of each owner can thus be accommodated. As a suggestion a fencing or boxing room with a small gymnasium could very nicely find lodgment here.

"While these plans are the result of considerable thought and of numerous consultations with those most likely to use them, I do not claim them to be perfect, they are a good start in the right direction, that's all. I know they are far away in advance of any other buildings used for the purpose they are to be built for, and as such I am not, I think, unduly proud of them."

The facade of the building is in the modern French style of architecture, the effect being produced by a treatment of light red brick, alternating with black brick in cornices for the first story. Black brick are also carried up the sides of each building, forming quoins, belt courses and cornices. They are also used in the panels between the windows of the third story, forming patterns such as are used in the best types of this style.

The five buildings are each separate and distinct, yet are treated as a whole; the two end buildings being carried up with gables, the center one having a large central brick dormer, the other two being treated with metal dormers and an ornamental iron railing carried along the cornices.

## A Fable

A RICH Automobile Promoter, being on his Way to close a stock company Deal that would net him \$50,000, dropped a Nickel just as he was about to step on the last Train that would get him to his Destination in time. He paused, and as the Gates were shut and the train passed on he chased the rollicking Nickel along the Platform, and at length he recovered it.

"How now?" said a Friend as the Rich Man pocketed the Nickel and viewed with Equanimity the departing Train. "You have saved a Nickel, but how about that Deal?"

Then said the Rich Man: "It has been a Principle of my Life to lose nothing that I have gained. Hence my solicitude about the Nickel. The Deal whereby I was to sell the patent rights of that carburetterless carburetter was not Consummated; therefore the \$50,000 was not yet mine. I have not lost it, and I shall not worry about it, but if I had let the Nickel escape me I should have passed a Sleepless Night."

This fable teaches what a liar the author of it must be.

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## Even Game Thieves Use Them

To some people in France a new and harassing terror has come with the automobile. It is well known that all kinds of winged game are carefully preserved and protected from poachers by landed proprietors there, and great expense is incurred in patrolling the woods at night to prevent depredations by that class of people who like to possess themselves of other people's property. Now the automobile is being operated in some places by poachers with wholesale results. They take a motor quietly along the highway to some secluded wood and put a peculiar form of searchlight into operation. The birds are attracted by the glare of light and approach it to examine the unusual phenomenon. Nets are then set to capture the game and the enterprising poachers quickly collect a rich booty and rush off at a pace that defies the game keepers to follow with any chance of capture.

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## One of the Tricks It Has

"It is perfectly wonderful how suddenly you can stop a motor vehicle."

"Isn't it? I was twenty miles from home and a repair shop the other day and mine stopped so suddenly I had to walk home."



## Clothes for Master and Man

IT was the misfortune of the late Flora McFlimsey to have nothing to wear ; it is ill fortune of the automobilist to have too much to wear. If anyone can tell the perplexed driver or user of a motor vehicle what is the correct costume for him to don the informant will be hailed as a savior. As the case now stands the costume question is largely one of personal election and the election, as a rule, has not been creditable to the electors. If there can be any more non-descript, hybrid, patch-work looking equipment than the automobilist affects in his costuming, it is not known in the category of sport.

Even the Englishman, the man who has always been correct in his designing of suitable sporting costumes, has lamentably failed in his efforts to provide a serviceable, decent looking outfit for the automobilist.

Take the illustrations herewith as samples of English effort. There may be comfort in that leather suit, but surely no one can claim that



there is any beauty. The cap, too, may serve



as a satisfactory head covering in either of the two shapes to which it is convertible, but certainly there is an informality, to put it mildly, about the affair which must make the wearer of it feel like he was his own hostler. The leather lap apron, of course, is no more for the automobilist than it is for the driver, and it is a convenience to both. So much for British ideas ; now for American ones.

Paul Frazier, who is an authority on what is proper in men's dress, holds forth in the *Men's Magazine* in favor of the leather costume, saying the owner when guiding his own vehicle should wear a double-breasted sack coat, buttoned up to the neck. Mr. Frazier says :

“An important point in this leather coat is the lining. For present wear this should be of very stout flannel. It may be a bright red or a plaid. Automobilists are disposed to favor the black leather rather than the tan or cream colored coats, as the first named is more serviceable, as it does not soil so easily.

“Wind cuffs are not necessary because gauntlets are worn. I prefer, however, the plain gloves, with separate gauntlets. In color they should match the coat. The trousers are made of the same material as the coat. They are so full that, if desired, they may be drawn over an ordinary pair of trousers; in fact, some chauffeurs regard the leather outfit as a set of overalls. In very severe weather or in swift racing the wind cuts like razors and warmth is a very important consideration. So the disposition under such circumstances, unless a man be remarkably vigorous, is to dress very warmly as to underwear and outer clothing, and then to pull the leather coat and trousers over all.

“The headwear is the conventional cap, made of leather and set low on the head; for speeding, a cap with any height or made of a light material would simply be blown away. The peak of the cap must come down as low as possible. Rushing a motor vehicle gives one the idea that he is riding on the cowcatcher of a locomotive, so that whatever is worn should be substantial and calculated to be warm.

“Quite interesting is the automobile livery. The coat consists of a cloth in the color to match the regular livery of the family, *i. e.*, blue, green, claret, etc. It is the regular livery cloth. These suits are also made of whipcords in tans, browns, and Oxford shades, suggesting a groom's undress livery. The coat is cut single breasted, buttons to the neck and may have either the military standing or box collar. The trousers should be of the same material as the coat. They are now cut wider than the regular undress livery trousers. They are ornamented with metal buttons. The caps match the suits whether made from whipcords or livery cloth. A leather cap is however, good form. The owner's crest or monogram may be put on the cap and it may also be worked on the collar in gold or silver, according to the buttons used.

“The automobile livery overcoat is cut very nearly in the same manner as the coachman's great coat. It presents pretty much the same appearance, but instead of being shaped in, it is cut with a full back and has a half belt at the waist line, which is drawn in slightly,

giving it a creased effect in the back. This garment is made of box cloth, which is a very heavy, stiff fabric, impervious to the wind.

"Such in general are the proper things to wear for automobiling. A few details may be interesting: Caps may be of tan or dark blue leather. There is the storm cap in black leather, with protectors for the ears. Besides the coat and trousers of leather mentioned above there are made for the road tan leather waistcoats heavily lined with wool. Capes are also worn. These are in black mackintosh cloth and have detachable sleeves. Suitable gloves are of various kinds. These are black and tan chevrettes, tans with black palms, gray castors, and black rubber.

"The French suit is liked by many. It consists of blouse and trousers, the latter being very full and fastened at the ankle. The material is a waterproof cloth, light in weight and a sort of dust color."

Coonskins are the furs used chiefly by those automobilists who come the nearest to knowing what is the proper thing to wear. Coon pelts are a comparatively inexpensive fur, warm and attractive in appearance. A first-class manufacturer makes them up of matched furs, beautiful dark stripes, and enough yellow showing to give rich shades to the fur, and while there is a trifle more expense in these they are sufficiently attractive to make worth while the difference in cost.

Coat, long and short, trousers and, when they are used, the carriage robes are all made of coonskins. Woman's automobile coats are also made of the same fur. Women will be obliged to use the coonskin robe for some time to come if they still desire to have things that match, for no special combination garment has as yet been provided for them. They wear the same hoods as will be worn by the men with their new coonskin garment, the regular Eskimo hood, with a short cape and turning back off the face. These hoods are soft and fit themselves to the heads upon which they are worn, and those for men and women will differ little if any in size. The hoods are of especially finely matched skins, and are particularly attractive.

Long coats in coonskin for men cost from \$50 to \$125, short ones \$55, and jackets for women are the same price. Handsome coonskin robes range in price from \$50 to \$85. Complete suits of furs which of course include trousers thereof, cost about \$100.



## Single Track Tricycle Coming

FROM its inception as a manumotive vehicle the tricycle has never been either popular, successful, or serviceable, and when it was fitted with a motor for power it became worse instead of better. There is, however, something in the idea of the light three-wheel vehicle which is attractive, and if the inherent weaknesses of the triangular wheel-base can be overcome, the type would become a popular one. An Englishman, W. Slinger, of Settle, will shortly put upon the market an entirely new form of motor tricycle in which the wheels will be placed in single file. By this means the maker promises to lessen vibration, eliminate side-slips, secure steady steering, and above all, have a vehicle which will stand unsupported.

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### Only a Few Years Hence

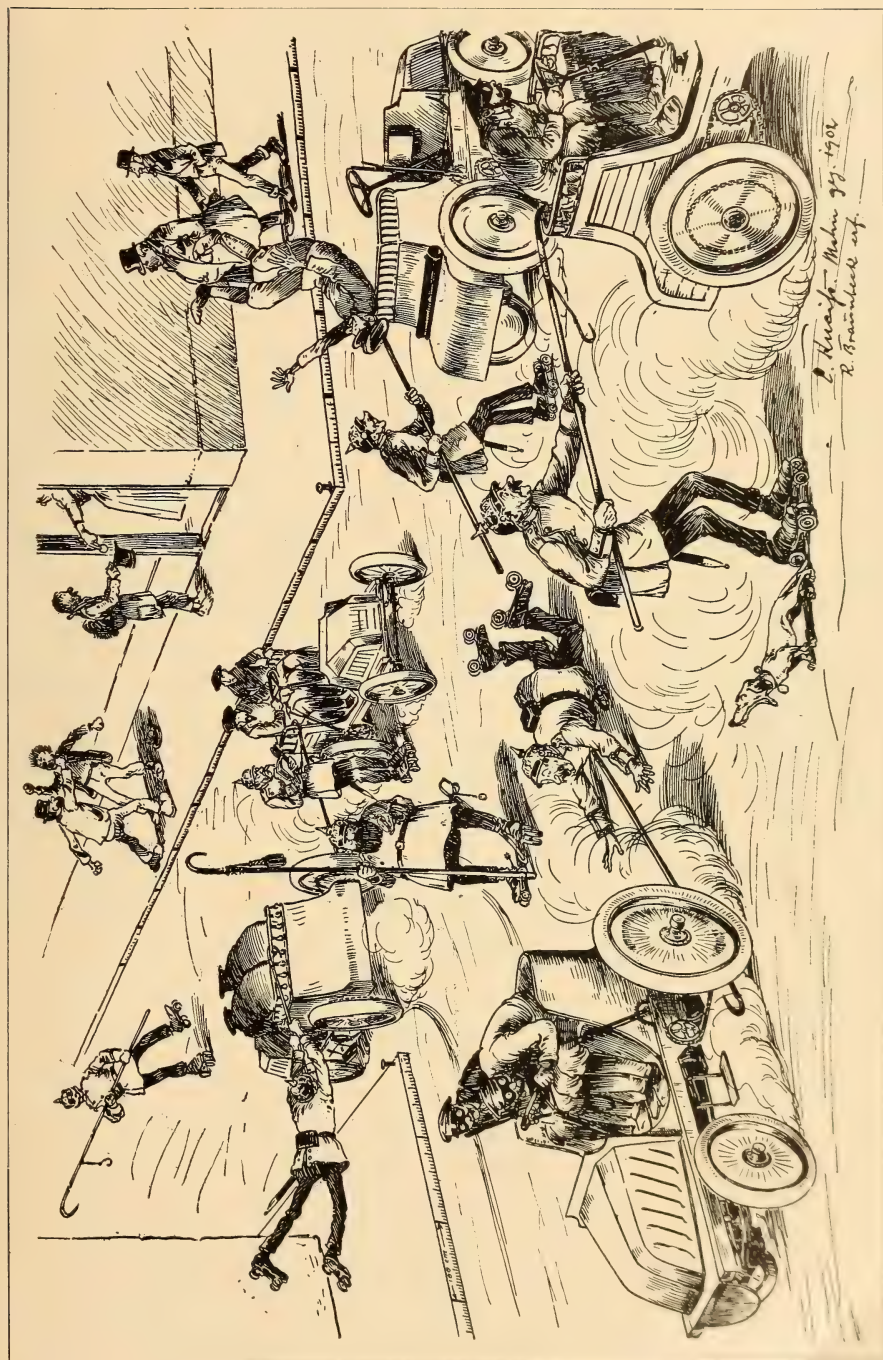
"The charge against you," said the magistrate,  
"Is that of walking at a furious rate.  
And it is further charged that you, at night,  
Have the streets promenaded without a light.  
Four miles an hour on the public way.  
Is dangerous speed. What have you to say?"

"Your honor," the prisoner said, "I went  
Out for a walk and my oil was spent ;  
But this motor officer would tell  
That I did not neglect to ring my bell."

"Sir," said the magistrate, in accents gruff,  
"To ring your bell is not enough.  
We are resolved, let me repeat,  
To protect automobiles on the public street.  
Only last week was a driver hurt  
By an unlighted child who did a spurt.  
The driver was injured ; his ride destroyed,  
And the automobile club was much annoyed.  
Five dollars I fine you ; your defence is vain.  
You must never walk without a light again."

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Perhaps in the case of the automobile's rival, the hay motored conveyance, it may be the wagon tongue that often makes the wheels tired.



DAS SCHNAUFERL'S IDEA OF THE UNHAPPY LOT OF THE GERMAN POLICE DETAILED TO STOP AUTOMOBILE SCORCHING

## Marine Automobile Establishments

FOR quite some time now no really first-class apartment or dwelling house in New York has been planned without accommodations being provided in it for the storage and care of automobiles. It remained for William Gillette, the actor and playwright, however, to first set the example of providing automobile accommodations afloat, and on his houseboat "Aunt Polly" he has a very complete automobile room wherein two motor vehicles are carried, cleaned and cared for. Following in the keel marks of Mr. Gillette, now comes W. B. Leeds, President of the Chicago, Rock Island and Pacific Railway Company, and in his new \$500,000 steam yacht, which has just been launched, he has provided for the storing of three automobiles, one each electric, steam and gasoline. Everything needed for the repair, care, charging, cleaning, etc., of the vehicles is provided for and the Leeds floating automobile room will have a special detail of three men—an expert machinist, a chauffeur and a helper, whose sole duty it will be to attend to the marine automobilic affairs of Mr. Leeds. Verily, the man of to-day, particularly the wealthy one, has many reasons to be thankful for the luxuries science and mechanics have given him.

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### The King and His Mask

The *Tribuna*, of Rome, is responsible for the following anecdote: Some time since King Victor Emanuel, who was passing a small field fort in an automobile, encountered a captain of artillery and halted to interrogate him. Finally the insistence of the Sovereign, who was wearing huge black goggles that half concealed his face, appeared suspicious to the officer, and wishing to put an end to the queries, he said: "Excuse me, I have already said too much, perhaps, and will not continue." "O," said the King, "you can tell me anything, I am most discreet." "But," replied the captain, "there are details that even the most discreet should not know." "I repeat," said the royal interlocutor, "you can safely make an exception in my case." "But who are you, anyway?" asked the perplexed officer. "What! You don't know your own King?" said Victor Emanuel, removing his mask and then congratulating the surprised man on his notable discretion. Beware the unknown binocle when in a confidential mood.



## Feeds Only from Center Level

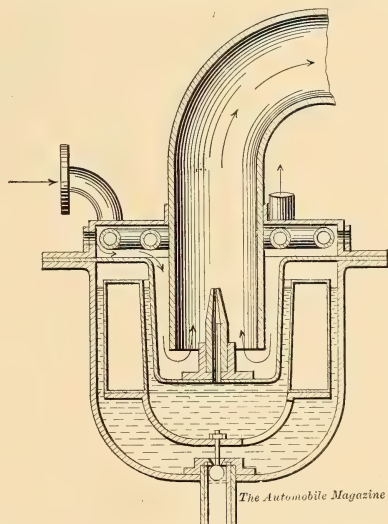
IT would, perhaps, not be claiming too much if one was to say that the future success of the explosive engine waits more upon the appearance of the perfect carburettor than upon any other improvement. Inventors and manufacturers both recognize this and the efforts of each are now aimed at bringing the carburettor up to the strength of the remainder of the motor equipment.

It is interesting to note the many really ingenious methods employed to overcome the defects of existing forms of carburettors. Among the latest of these feed one designed by Francis Le Bon, of Billancourt, France, which is so constructed that the liquid can only be taken at the center of its level no matter what the position of the apparatus is.

To accomplish this, M. Le Bon provides a receptacle of which is provided with a central inlet cone or other suitable is attached to an annular float arranged within the receptacle and constructed so as to maintain the proper level of the liquid. The upper end of the receptacle is provided with a horizontally projecting flange to which is secured a similar flange of an inner receptacle, the bottom of which has a central hole. Over the hole is a vertical ejecting nozzle, the upper end of which is on a line with the upper level of the fluid in the outer receptacle.

Above these receptacles, and secured to their projecting flanges, is a hollow dome or cover plate, the periphery of which is provided with a number of holes intended to be controlled by a ring, rotatably arranged around the periphery of the cover and having similar holes, which serve for the admission of air to the carburettor.

Secured to the center of the cover plate is the outlet pipe, the lower portion of which forms the mixing chamber, extending down-



comes the float-by Francis Le Bon, France, constructed that the liquid can only be taken at the center of its level no matter what the position of the apparatus is.

this, M. Le Bon provides the bottom of the receptacle with a central hole. Over the hole is a vertical ejecting nozzle, the upper end of which is on a line with the upper level of the fluid in the outer receptacle. The

wardly to a point near the bottom of the receptacle and through which the mixture of air and gasoline passes to the combustion chamber.

Arranged within the cover is a coil pipe, through which is passed a part of the exhaust gases from the motor for the purpose of heating the air entering the carburettor. When the motor is at the suction stroke, the air entering the carburettor through the holes in the cover and warmed by the coil pipe passes downward through the annular space between the pipe and the inner receptacle, and thence upward through the outlet pipe forming the mixing chamber, carrying with it the liquid found in the central nozzle.

From the illustration it may be readily seen that the liquid is continually drawn off at the center of the level, notwithstanding the position of the apparatus. While the swaying of the vehicle is thus in a measure provided for, unfortunately the still more formidable troubles of the float-feed carburettor resulting from the verticle jolt of the vehicle have still to be contended with, even after M. Le Bon's efforts.

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## MOTOR JINGLES

*(Set To Old Melodies)*

*(Auld Lang Syne)*

Should auld Pegasus be forgot,  
And ne'er be mentioned more,  
Just *coz* a brand new locomote  
Has motored to the fore?

*(I want to be an angel)*

I want to be a chauffeur  
And with the chauffeurs stand,—  
A visor on my forehead,  
A motor at my hand :  
Then right in all my glory,  
Conspicuous and gay,  
I'll drive the finest racer  
And "scorch" both night and day.

LA CHAUFFEUSE.

# Pride Goeth Before A Fall

He started out upon the road,  
As proud as man can be;  
He grasped the lever in his hand,  
And sat in dignity.

He looked as if he owned the earth,  
So full of pride was he;  
But there are lots of little things,  
That none of us can see.



A tire burst with loud report  
He simply said, "Oh! Gee!!"  
And when he found the cause.  
A tack, said something—  
With a D—





## Why External Explosions Occur

**B**AUDNY DE SAUNIER, one of the most interesting of French writers, dealing with the external explosions of gasoline motors, says that the most frequent cause thereof comes from a defective joint between the exhaust pipe and the cylinder head, with the very natural result that the exhaust then takes place into the open air. This will occur regularly with each explosion, and should be remedied at once. The same regular explosions will occur where tube ignition is used, from a burst tube. The most frequent place for the trouble to originate, however, is in the carburettor. This, says M. Saunier, is due to a variety of causes, among the most prominent of which are the following :

The lift of the intake valve may be too large, owing to the lock nut having worked loose, or the spring having broken so that the valve has not time to close before the explosion takes place ; there is then direct communication between the cylinder and the carburettor. If the valve stem is a shade tight, the same thing occurs. It may even happen if the pipe from the carburettor is so short that the gasoline in the latter takes fire, but this is not a very serious matter if it is a jet feed, as closing the air inlet puts it out.

Defective ignition is another cause. Suppose that the motor is running fast and that the firing point is suddenly put at its latest. Since at high speeds the full volume of charge is never drawn in, it follows that, after compression, a slight vacuum is formed when the piston returns, and the inlet valves open. Just at this moment, the ignition being late, the explosion takes place, and an explosion results in the carburettor.

If none of the foregoing are blamable, then defective carburation is almost sure to be the trouble-causer. Under these conditions the charge may burn so slowly that combustion may not have entirely ceased when a fresh charge arrives, and the latter consequently fires back into the carburettor. Explosions in the exhaust box are always due to defective and intermittent ignition. The ignition having failed perhaps several times in succession, the exhaust box and pipe are filled with explosive mixture, which ignites when at last ignition takes place, and the hot gases pass into the exhaust pipe.

# Automobile Transportation in the Philippines

By GEORGE E. WALSH

**A**MERICAN automobiles have been shipped to the Philippines in the past year both for private use and army purposes, and now the transportation of the United States mail in portions of the islands is to be undertaken by motor vehicles. The transportation of the mails by means of bull carts, escorted in the interior by wagons and mule trains, impresses an observer with anything but an idea of rapid transit. There is nothing in the world slower than a bull cart in the Philippines, and with it days are required to carry the mails a distance which would be covered in this country within a few hours.

The difficulties of transportation in the Philippines are, of course, quite formidable, and it will take years and immense expenditures of capital to make roads passable and reliable. In parts of the interior the land is so hilly that it is hard work to cut anything more than trails across the country, and along the coast low sandy stretches and marsh lands seem to place a permanent prohibition upon the building of any kind of highways that will be of service during the rainy season. Yet, under American rule, the country is now being rapidly gridironed with military roads, common highways and permanent trails. The mule trains and bull carts are laying the foundations for the future roads which may in time bring the whole country into close communication with the seaboard.

But at present the two great necessities of the islands are trolley cars and automobiles. Steam railroad lines are few and run only short distances, and the cost of constructing is so very great that they will not be extended very rapidly. Trolley lines, however, both for passenger and freight traffic are rapidly being projected and built. These electric lines connecting the different military stations and garrisons of the islands will prove of considerable importance, since there are over 300 of these stations, many of which can be connected by trolley without much cost. Already the stations are linked together by telegraph and telephone wires and between them passes a continuous procession of couriers or pack trains. The transportation of freight, passengers and mails depending upon the unity of this procession is naturally slow work.

When the United States government first attempted to give the

islands a decent mail service native runners or couriers were employed to carry the letters and first-class mail matter, but experience quickly showed that any such method was unsafe. While the trained runners could make much better time than the mule trains or the bull carts, they could not be trusted. They constantly rifled the mail packages, and often claimed to have been waylaid in the woods or hills by bandits. The military post office then forwarded the mails by armed couriers or in mule trains protected by armed escorts.

After trying all these methods of mail transportation and finding that not one of them would do the government has now decided to try automobiles. The experiment will prove of special interest in view of several novel features of the work. It will be the first instance of the automobile as a pioneer method of transport in a new and undeveloped country. The reasons the government gives this form of transportation a trial are that the roads through the islands, while poor and uncared for, are not so rough as to make it impossible for the automobile to pass over them with reasonable speed. Philippine roads for the most part follow the line of the coast and are generally level and sandy. Except during the rainy seasons they are hard and compact. Without any great amount of repairing they are quickly traversed by both the bicycle and the automobile. During the past year more than two dozen automobiles have been shipped to the islands for use by the wealthy islanders. The demand for these motor vehicles will unquestionably increase rapidly. The horse cannot withstand the hot climate of the islands, and it is doubtful if he will ever prove the serviceable animal he is in other countries. For this, if for no other reason, the motor vehicle has a future in the Philippines, and the plan of introducing these vehicles by first employing them for mail transportation will tend to stimulate their use.

The general impression prevails in America that few of the natives of the Philippines can afford such luxuries as automobiles, and that the demand for them will, therefore, be limited to the Americans in the islands. This erroneous impression should be at once dispelled. There are several thousand wealthy native families in the islands who control large rice plantations, dyewood forests, sugar estates and mills, and cocoanut groves. Some of these natives own several large farms in different parts of the country, and even now, they use motor vehicles for traveling from one to another of their estates. The absence of railroads forces these islanders to depend upon their own individual means of transport, and the motor vehicle comes nearest to supplying



exactly what they need. Consequently it is not at all unusual to see a native riding through the country districts in a newly imported American automobile. The fact that these rich natives are so quickly availing themselves of the opportunity to purchase the luxuries made in this country is one of the most significant proofs of the gradual settlement and development of the islands.

The bicycle was practically introduced in the islands by the American soldiers. Several thousand of these manumotive conveyances were brought to the Philippines by the volunteers, and since then there has been a steady stream of them going into the islands. Soldiers have used them for carrying mails, despatches, and for their own transport. The bicycle has come to be a feature of army life in the Philippines. The conditions of the two countries are such as to make the needs entirely different and distinct. If present conditions continue in the islands trade must reach out and expand in places that have heretofore been untouched by modern methods. The question of how to push this trade out into the interior and along the more isolated parts of the coast is one that deeply concerns the Philippine merchants, and every effort is being made to solve the problem.

With new railroads practically out of the question, or so far in the future that they are not now to be considered, the question resolves itself into one of trolley lines or automobiles. Both of these indeed are to make a bid for the immediate future trade of certain portions of the islands. Heavy automobiles for trucking and country transportation of merchandise are not so much out of the question as some think. Several large motor trucks were shipped to Manila in the latter part of last summer, and these have been used for transportation of goods into the interior and along the coast. One express and transportation company has operated two of these in Manila with considerable success, and two more have been ordered for the same purpose by another company. Merchants in Manila see fields for trade lying east and south of them which they are unable at present to reach solely because of the lack of transportation facilities. The slow-moving bull cart methods of conveying goods from one town and province to another is sufficient to discourage an American, and none of them who have settled in Manila for the purpose of building up a business is content with the present conditions.

The automobile and the trolley are the two factors to control this trade. The trolley is already spreading out in many directions, linking towns and provinces together so that freight and passengers

can be carried across a country which in the rainy season is otherwise absolutely impassable. When one speaks of these roads as impassable it is the mildest possible way to describe their condition. No conditions similar to those existing in the Philippines during the rainy season can be found in the United States. Carts and wagons sink up to their hubs in the mud, and would undoubtedly go even deeper, if it were not for the body of the wagon holding them up. Mules and soldiers tug away at the ropes to pull the wagons out. Every few minutes a halt must be made to release the wagons from their muddy prisons. Transportation under such conditions is practically of little account during the rainy season, and even a motor vehicle could not overcome such obstacles under such conditions.

The trolley lines, however, can follow high ground where no muddy pitfalls need be guarded against, and as the tracks stand above the water and mud they are serviceable at all times. It is estimated that the trade of the islands would increase a hundredfold within six months if proper transportation facilities were provided. Electric lines must eventually solve the problem, and then the automobile will continue to act as feeders to these. There is probably no country in the world which offers better scenery and inducements for automobiling than the Philippines during the dry season, and many Americans have gone to the islands for the purpose of enjoying their rare beauty. A large part of the country can be visited in a motor vehicle, while the pleasures and the novelty obtained are more than sufficient to repay one for the trouble. With the United States government employing automobiles as mail-carriers, one may feel assured that if the experiment is successful, motor vehicles will steadily grow in Philippines, not only as necessary articles of business, but also as instruments for pleasure and recreation.

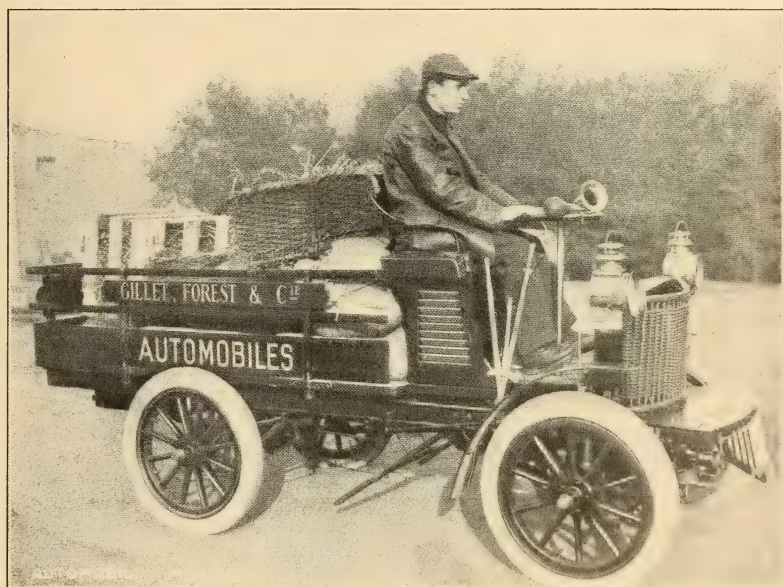
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### About \$35,000 Per Dozen

SOME idea of what a first-class Daimler costs first handed may be gained by the fact that the Cannstadt plant has just turned over to the German military authorities nine automobiles, for which the government paid 108,000 marks (\$25,704) or an average of \$2,862 about. Americans and others with plenty of money and no patience pay three to four times as much for the same or an inferior vehicle of this make.

## Fed by the Automobile

WITH the sole exception of coal mining and the great metallurgic industries, it is now conceded that automobilism, directly or indirectly, maintains more people in France today than any other industry. The number of those in France whose support is in one way or another derived from the automobile has been estimated by M. Leon Auscher at close to 250,000. This great army of the employed is divided by M. Auscher among the following trades :



French Motor Delivery Wagon

Foundries for the production of cylinders and other castings.

Copper boiler works, factories for oilers, tubes, connections, etc.

Aluminum foundries, which work exclusively for the automobile industry.

Spring and spindle works, whose output has increased fivefold since 1898.

Factories for bolts, screws, rivets, and other small ware.



Wheelwrights' shops, which depend in a certain measure on automobile factories.

India-rubber factories, which have developed to a colossal extent.

Nickel and copper shops.

Aluminum-carriage-building trade and allied industries.

Automobile-painting trade.

Automobile-upholstery trade which employs morocco-dressed cow-hide to such an extent that the French tanyards cannot meet the demand, and English and German products are also used.

Lamp trade, which furnishes two and sometimes five lights for each vehicle.

The small industries allied to the carriage-building trade—the leather worker, the enameler, the cabinetmaker—all contributing certain details before any single vehicle is complete.

Factories for making the various batteries.

Specialties in measuring apparatus, ampere meters, volt meters, resistance-measurement apparatus, etc.

Manufacturing, rectifying, and canning automobile mineral fuel and preparing cans of oil and non-liquid grease.

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## The Proposition and the Patent

The Impecunious Promoter was interviewing the Been-There-Before Inventor. The former had a Proposition, the latter had a Patent. The Proposition was for the Patent, the Patent was for an Improved Motor.

"Well," said the Promoter, presenting his Proposition, "I'm willing to devote all of my time to this invention."

"Say," replied the Inventor, coldly, as he pushed his Patent away back from the Proposition, "couldn't you put in about \$7.50 instead?"

But the Promoter absolutely couldn't; so, withdrawing his Proposition, he placed it handy for use and went out looking for other Inventors.

Moral: Sometimes even Inventors become Wise.

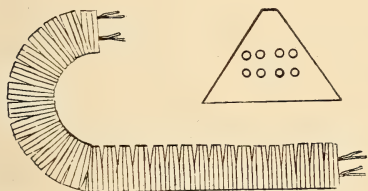
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## Webster Up-to-Dated

Horse-laugh, *n.*—A raucous, chuckling sound of the voice accompanied by an expulsion of air from the lungs, usually given in mockery, contempt or derision. (Obs.) See Auto-Laugh.

## Something New in Belt Drive

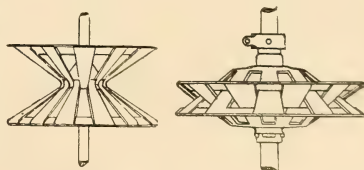
**B**ELTS and pulleys as methods of conveying power have never met with the favor among the American makers of motor vehicles that they have abroad. Possessed of many really good points the belt has always suffered from its inclination to slip, stretch and become affected by adverse weather conditions. Under these conditions belts have never been taken up in this country, the first makers of motor vehicles here finding the almost perfect bicycle chain answering all of their requirements. Eventually the makers designed chains especially for automobile use, and thus it is that the belt is only seen here upon vehicles which have been imported.



Abroad the belt is very far from being entirely replaced by either the chain or the flexible shaft, and considerable ingenuity has been shown by its users in their endeavors to overcome the defects of the belt and make the battle between it and the

other forms of transmission a very much more open one.

The illustrations herewith tell at a glance the story of a very ingenious attempt on the part of a Frenchman, Fouillaron, to combine the good points of the belt with the best ones of the chain. The result is a leather chain which is not only based on an entirely new principle in its own construction, but has been given an equally as original pulley to run upon. As will be seen the chain-belt is triangular in section and in angle, being composed of sections of leather threaded on eight gut cords as shown. The result is a transmission device for which is claimed not only the strength of the chain, but the flexibility of the belt. Having originated the chain-belt the clever Frenchman proceeded to supply it with extensible pulleys, which are simplicity itself. Each pulley is built up in the shape of two cones formed of interlacing blades. One cone of each pair is fixed, while the remaining one can be displaced laterally, giving a variable effective diameter. The driving pulley is attached directly to the crank-shaft of the motor. Here is where the value of the chain-belt demonstrates itself. Fitting



perfectly the angles of the expanding pulleys, it cannot slip and is perfectly noiseless, while neither heat nor moisture have any effect upon it. Taken all together it would seem as though the Fouillaron invention has enough merit in it to delay for some time, if not to defeat, the abandonment of the belt drive. In any event it is a really ingenious attempt to do one or the other.

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## The Microbe and the Motor

IT is well known that if it were not for its powerful action as a drug and poison alcohol would be a cheap commodity. Sugars and starches grow in almost all the civilized countries in the world, and it is but a short step to convert these into alcohol by fermentation, a process due to the agency of micro-organisms. All cereals would thus serve, and the roots containing sugar, such as the maple, and even fruit such as the grape, in a time of plenty might easily be a cheap source of spirit.

Alcohol possesses excellent calorific value, it burns with a hot flame, it is easily vaporized, and it yields, as a rule, no deleterious products of partial combustion as does oil or coal. It is thus especially well adapted as a fuel for the motor-vehicle. The drawback to its use is, of course, its expense, but some effort to reduce this has been made with success in France by getting a concession from the Excise to withdraw the high duty, which is done if it can be shown that the spirit has been rendered undrinkable.

Such alcohol is known as "denatured" spirit, the addition of some highly nauseous compound making it absolutely unfit to drink while not interfering with its properties for the purposes of fuel. Similarly denatured alcohol is being employed in lamps for the production of an incandescent light by the heating of the Welsbach mantle in the spirit flame. It is, therefore not chimerical entirely to suggest that the day may come when the world may not only owe its increased facilities of locomotion to the much-abused microbe, but some of its effectual means of artificial illumination also.

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## Their Strongest Efforts

"Some dese hyar auchormobeels," said the aged colored gentleman, who for a consideration was aiding the unfortunate owner in making a roadside repair, "pears to me is jess built in such a curious way dat dey nebber seems to be puttin' forward deir bigges' efforts 'ceppin when dey's headin' right foh trubble."



## Shaking Them Up in Ireland

WHEN it comes to disregarding the law the Irishman may always be safely counted upon to do his share, but even an Irishman must not exceed his prerogative in this respect as apparently the automobilists of the Emerald Isle have been doing, if their scorching indulgencies are anything like as bad as the *Belfast News Letter* would lead one to believe. Says this truthful representative of Irish affairs :

“To run over a policeman is a very grave offence. Unfortunately, motorists do not confine their attentions to the police, but distribute them all over the body politic. Not unfrequently they run into hedges and ditches, and suffer physical injury themselves, and there are instances on record of five-bar gates having been cleared by youthful and enthusiastic drivers. Wheelmen in early days were bad enough, but the drivers of motor-cars go at treble their speed, especially when they leave the metropolis behind them. The wagoner with a heavy load behind his horse is often painfully undeceived when he imagines that it is the duty of the motorist to get out of his way. The modern Phaeton sounds his syren, whose startling voice is enough to demoralize nervous people unfamiliar with the muffled noise it makes. It often approaches the unwary pedestrian in a cloud of dust, snorting along at express speed as it vomits forth its pestiferous fumes. If motorists would always collide with policemen their erratic speed would soon be regulated by the magisterial bench.”

Judging from this, what the Irish policemen are now most in need of, is some sort of a modern St. Patrick who will undertake to banish the scorches from Ireland as effectually as his predecessor did the snakes. The modern task is, however, much more difficult. You cannot catch a scorcher as easily as you can a snake, and he is such irreverent customer that something stronger than anathema will be needed to drive him out.



An English advertising idea showing how one shape of rim pinches a tire while the other does not.

# Automobile and Good Roads

By GEORGE E. WALSH

THE possibilities of automobile touring in a country the size of the United States are limited only by the condition of roads, and the movement to develop, improve, and repair the extensive road systems of the whole country must to a certain extent measure the growth and expansion of this form of pleasure. The effect of the bicycle on road improvement has been so phenomenal in the past 10 and 15 years, that few can stop to question the actual practical value of a systematic joining of all interests in furthering the movement for making better roads. Directly and indirectly the bicycle has been the means of interesting capital in road building to the extent of millions of dollars, and of spreading abroad more accurate and scientific data concerning road construction than was ever before done in so short a time. The bicycle practically paved the way for automobiling. It made this modern vehicle of pleasure possible in a country that was formerly noted for its "bad roads."

The automobile interests should therefore be pledged to all that encourages and stimulates road improvement. This should not be merely an indifferent factor in the road questions of the day, but a positive and aggressive force. Whether interested in the manufacturing of automobiles, or merely in the pleasure of running them for recreation, there should be a unity of purpose and aim in endeavoring to broaden the movement to convert impassable country roads into pleasant durable highways, over which all vehicles can pass easily at any time of the year. Automobiling is less dependent upon fine weather than the bicycle for operation, and the sport can be carried on successfully in midwinter as well as in summer provided the proper roads are there.

The two endurance contests in this country during 1901 demonstrated the superiority of some machines over others, and showed the value of the personal equation of the driver, who, like the man behind the gun, contributed largely toward the success of his machine by personal knowledge, accuracy and quickness of decision, and skillful manipulation; but there was another factor which the contests emphasized in a most remarkable way. The condition of the roads over which the vehicles passed determined the races far more than was

appreciated. It was notorious in one of these endurance tests that the ranks of the contestants were rapidly thinned out before half the distance was covered, and the break-downs and accidents were almost directly due to the condition of the roads. In pleasant weather collisions were quite frequent at the beginning of the races, because of the dense clouds of dust which enveloped the contestants, and in wet weather the machines gave out, because the roads were so muddy and and slippery that accidents from unnatural strains constantly happened, or the exposed parts of the machinery became clogged with the mud, making normal speed impossible.

American vehicles have been constructed with a view to running over heavy and rugged roads, and any touring machine which cannot stand this rough usage is adapted only to town and city services. But while the machines are better and stronger than ever before, and the drivers have learned by practice and experience the value of careful driving, the fact seems to be overlooked that road conditions have not made a corresponding rate of improvement. If there are to be new records in long distance automobiling in this country, those interested in the sport must become more earnest and systematic in obtaining better country roads. With our extensive common roads system, and a climate and scenery unsurpassed in the world, we should within the next ten years construct plenty of fine macadam roads. We should have a system of good roads which would lead from ocean to ocean, and from the Gulf to Canada. The accomplishment of this would give to the automobile industry a greater boom than ever.

The effort of manufacturers to-day in this country is necessarily toward high-speed endurance machines, which will take almost any kind of a country road and not break down. This requires greater expense in manufacturing them than if the roads were on an average good or passable. The extra expense is put into the machines simply to pay for the neglect of the roads in certain parts of each State. There are to-day, in sections, fine stretches of country highways, but so far they have not been connected in one continuous system, which would enable machines to traverse the whole country, from seaboard to seaboard in anything like decent riding. The road question is one problem, and the construction of strong, durable automobiles another. And yet the two overlap each other, and with the solution of the former, the latter will be greatly helped to a successful issue. At present, road improving is too spasmodic. In one section the work



reaches a high stage of efficiency, but in another not far distant the highways are abominably bad. Interstate and inter-county coöperation must be brought about, or the movement will be a long time toward reaching anything like success.

With inter-ocean highways once established, numerous feeders in all directions would soon be constructed. The very fact that one such system were built and used by thousands of touring wheelmen and automobiles would stimulate those living off the line of the roadways to make proper connections with the system. Railroads are to-day encouraging farmers and manufacturers and residents along their lines to build good roads to act as feeders to the steam lines. It has been found that these feeders not only improve the surrounding country and put money into the pockets of the real estate owners and farmers, but they also benefit the railroads, stimulate the growing of crops and manufacturing of products.

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### Pestered by the Portuguese

Automobiles have, as yet, been introduced in but very limited numbers in Portugal, and the law makers of that country seem determined to suppress that method of travel as far as restrictive laws can do so. By law, speed is regulated to 20 miles per hour in the open country, and  $6\frac{1}{2}$  miles per hour in towns and villages. These oppressors have not made action against trolley cars yet, but they are certain before long to endeavor to protect the interests of the mule by holding down the speed of electric cars to that of the long-eared steed.

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### Had the Evidence at Hand

At a series of conferences organized by the Motor Club of Belgium the opening lecture was given by a Brussels constructor, commencing a course of theory and demonstration on the motors and principal parts of petroleum vehicles, and the gentleman made use of a veritable motor, with all the essential portions of its mechanism, to describe his lecture, which was thus rendered plain and instructive.

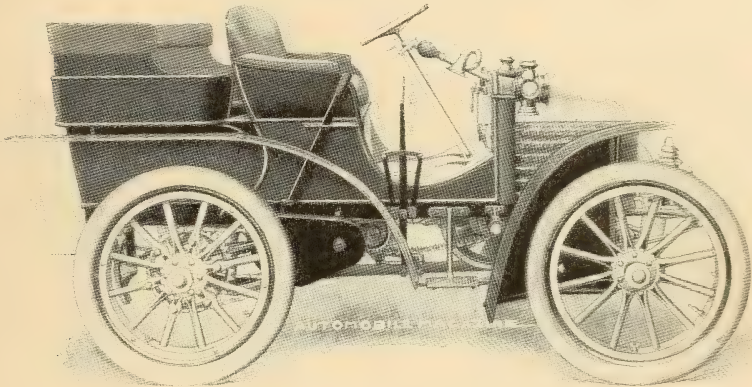
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If expense is no object and you wish to acquire an extensive mileage to show to your admiring friends, attach your odometer to your gas meter. Nothing can pile up figures faster than that combination.

## A Successful and Interesting Automobile

By ALEXANDER F. SINCLAIR

**B**IRMINGHAM, England, is a city of no little importance. If it were entitled to no higher honor than being the birthplace and home of that eminent politician, the Right Honorable Joseph Chamberlain, at once the most generally admired and cordially disliked statesman in Britain to-day, it would have cause to feel good, but it has other, and it may be more substantial, claims to greatness. It employs a larger number and more varied assortment of artificers in metals than any city in the world, and its prestige in this respect is



Wolseley 10 H. P.

not a thing of yesterday. As long ago as 1538 it was described by a writer of that period as a town of "smiths and cutlers," so that if there is anything in the theory of heredity its artisans should be easily taught and exceptionally expert. That they are the latter their work testifies, for whether it be in making gold and silver jewelry or the many other manufactures of these metals, or those of copper, brass, steel, and various amalgams, in the form of arms, ammunition, ornaments, toys, coins, lamps, pins and needles, pens and many other articles, to say nothing of "Brummagem" ware, a kind of metallic shoddy in the form of cheap jewelry, their workmanship is of the best.

When cycle making began it was taken up by a number of Birmingham firms, by whom it is still carried on extensively, and now that automobiling has reached these shores, what more natural than that Birmingham should "take a hand"?

Of the several firms engaged in the industry none has been so successful as the Wolseley Tool and Motor Car Company, Limited. In the 1,000 miles trial of 1900 the company won the first prize of the A. C. G. B. I. together with silver medal of the Automobile Club de France, and the Daily Mail prize. These successes were followed in 1901 by the firm's Glasgow Exhibition contest. To run two cars and win gold medals with both is a feat not often equalled, and when it does happen its commercial value would be difficult to over-estimate. It may be said for the company that so far, they have shown no evidence of failure to appreciate the value of their success. Their light is not eclipsed by the shadow of their modesty. Quite the contrary, indeed, for recognizing the truth of the saying that "sweet are the uses of advertisement," they make good use of the pages of the technical press.

"The manufacturer of a good motor vehicle requires a thorough technical knowledge of the business, the most careful attention to details, and a properly equipped factory." Such is the preface to the Wolseley Company's catalogue and it would appear that their claim to the possession of all these requisites is justified by the facts. Adderley Park works are unsurpassed in the automobile industry in this country, and the finish and performances of the cars turned out by this firm demonstrate the existence of the qualifications mentioned.

The two gold medal cars were run in classes A and C, and were of 5 H. P. and 10 H. P. respectively. They were very favorably commented on during the contest, their admirable workmanship and design being recognized, while their running was also of a satisfactory character. The design of the two cars is very much on the same lines, the less powerful motor having but one cylinder, while the other has two; and as the greater in this case undoubtedly includes the lesser—and more—the 10 H. P. vehicle has been selected for description.

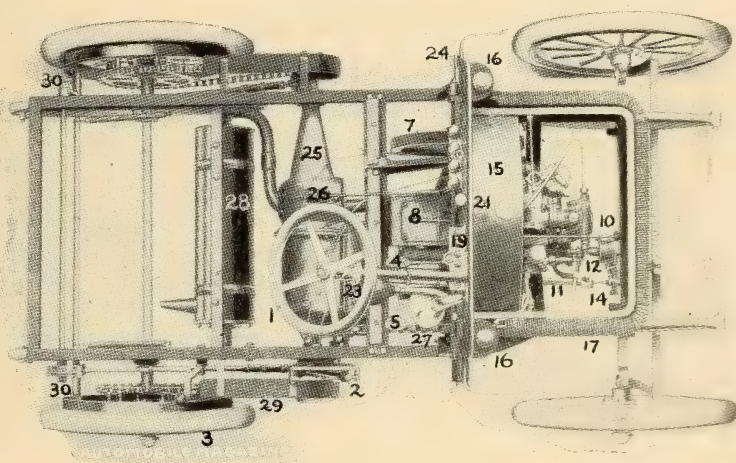
In the description of a motor driven vehicle the practices of dealing with the most important part—the motor—first appears to be a just one and is followed in this case.

The Wolseley Co. disagrees from the majority of present day car designers in that they prefer the horizontal to the vertical position for the motor and they do not fear to justify the faith that is in them. They adduce various arguments in favor of the horizontal engine and by way of example two from among the number may be cited. The first is the greater comfort resulting from the stability of a car with a



low center of gravity when running at high speed ; the second is the more efficient lubrication of the cylinder which can be secured with the horizontal position. Regarding the first point there is no room for argument, it is admitted. On the second, however, there is more to be said. Although it may be conceded that the lubrication is more easily effected, it is frequently maintained by the advocates of the vertical position that the weight of a horizontal piston wears away the cylinder lines and necessitates frequent repairs. This wear the Wolseley Company contends is the result of ineffective lubrication, and instance the angular thrust of the piston rod as exercising greater pressure on the lines than the weight of the piston, yet, if the lubrication is satisfactory, there is practically no wear.

The two cylinders of the motor, 13, are each  $4\frac{1}{2}$  inches bore and 5



inches stroke, developing about eleven brake H. P. at 750 revolutions per minute. In the construction of the motor, as in that of the car as a whole, convenience and accessibility have received unusual attention. On the forward end of each cylinder and easy of access is fitted a separately water-jacketted combustion-chamber which can be removed with a minimum of trouble, thus affording an easy means of reaching the cylinder for purposes of repairs, inspection, or cleaning, and without resorting to the unpleasant necessity of dismantling the whole engine. This system of separating the water space around the cylinder from that around the combustion chamber, combined with ground joints, by which packing is rendered unnecessary, has much

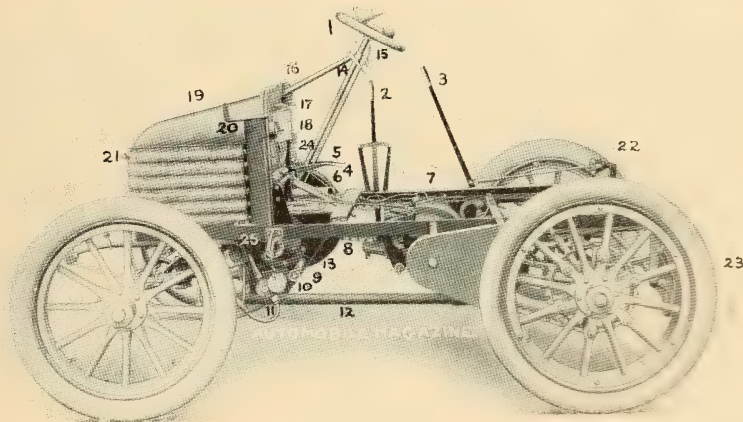
to commend it, and if no advantage other than the exclusion of water from the cylinder resulted its adoption would have been justified. Perhaps the greatest benefit derived from the system, however, is the attention which can be given with little inconvenience to minor cylinder troubles. When considerable delay and a good deal of work are involved in remedying such trifles, there is a tendency to put off the evil day, until what was originally of slight moment becomes a serious defect. We all know the truth of the maxim about a stitch in time, but, if attention to it means a good deal of trouble, we incline to let it rip all the way.

The ignition plug and inlet and exhaust valves are fitted upon this cylinder head-piece, the valves as well as the pipes to and from them (see 12) being unusually wide. Both cylinders suck from a single float feed carburettor of a type manufactured by the company under a license. The ignition is electric only, tube firing being considered both unnecessary and dangerous. A static spark is produced by a secondary battery and induction coil, the necessity for mechanism within the cylinders being thus avoided. It is claimed for the contact-breaker, 10, which is of original design, that it secures freedom from short-circuits, and if the claim can be made good it would appear that the most serious difficulty in connection with the secondary system had been overcome. This appliance is operated from the half-speed shaft, and is so constructed that it can be rotated by means of the small lever 14 under the steering wheel, the time of sparking being thus varied at will.

The two pistons drive cranks set at  $180^{\circ}$ , and from the crank-shaft the power is brought into operation by means of the friction-clutch 6, governed by the pedal 5, whence it is conveyed to the countershaft by means of 8, a Renold's silent chain. The countershaft carries a sliding sleeve on which are mounted spur pinions; these, operating with fixed spur wheels on the differential cross shaft within the case 7, give four speeds forward and reverse. From the ends of the differential shaft the power is carried to the sprocket wheels attached to the spokes and hubs of the back road-wheels by means of two  $1\frac{1}{4}$ -inch roller chains. The four speeds are in ratio but may be varied by changing the sprockets on the ends of the differential shaft. The change-speed gear and reverse movement are operated by the lever 2, the action being conveyed by means of a sector at the extremity of the lever, acting on a pinion fixed to the end of the striker spindle. This gear and method of transmission does not

require the absolutely accurate alignment needed when the power is all shaft-carried, while the chain gear permits the change-speed to be run slower than the motor ; and, although a fixed drive results, the chain possesses sufficient elasticity to absorb some of the shock caused by a too rapid insertion of the friction-clutch. This clutch is of aluminum faced with leather, the spring pressure being regulated from the outside. All the gearing and shafts are made from mild steel forgings, hardened, and ground true. With a view to minimize friction as far as possible a special form of bearing has been introduced in which two rows of balls are used. The gear case is of aluminum alloy and, as usual, is fitted with grease for noise deadening and lubricating purposes.

When the normal speed of a motor is only 750 revolutions per minute it would almost seem that any system of cooling would be



sufficiently effective, but in this, as in other parts of the car, an original method is brought into use by which efficient cooling is secured with only a gallon and a half of water. The radiating pipes and their supports, combined with the communicating pipes and jackets, contain all the water used, and it is said to be ample for any distance. The radiating pipes, 21, are of copper and their gills of brass. The supports, 20, are of aluminum and communicate by means of copper with the centrifugal pump, 11, which is operated by gears from the half-speed shaft, and runs at only a quarter of the motor's speed. The water vessels being higher than the cylinders, no trouble beyond the heating, and consequent occasional replenishment of the water would result from a failure of the pump.



The oil supply, 17, is fixed behind the dashboard and in front of the driver, and is provided with a gauge-glass for the information of that individual. The petrol is carried in a tank of six gallons capacity placed in front of the dash-board, through which, however, a gauge-glass protrudes to tell how the supply stands, while a knob, 16, projecting above this glass, and within reach of the driver, regulates the petrol supply valve. The convenience of this arrangement not only in the matter of filling, but for purposes of observation and control is obvious.

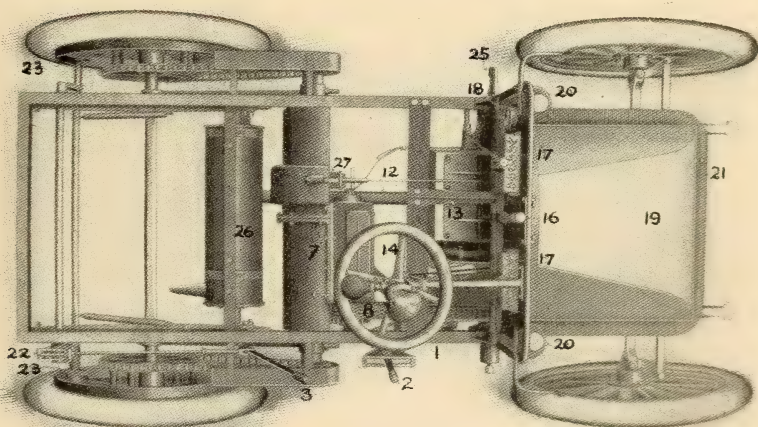
The steering gear is another of the distinctive features of this vehicle. The end of the steering rod carries a bevel pinion which operates a locking form of mechanism fixed to the front axle, the effect being that no obstruction met with on the road affects the direction of the car. An aluminum bracket attached to the dashboard supports the steering rod, and carries the levers, 14 and 15, the purpose of the first being, as already stated, to regulate the time of sparking, that of the other to operate the throttle valve. The steering wheel, 1, is quite a handsome article, having an aluminum center with a walnut rim.

The brake question like the poor is ever present. Notwithstanding sufficiently drastic tests held so recently as last September further experiments—this time for the information of the Local Government Board with a view to increasing the legal maximum speed—were held on January 11th on a measured mile within the precincts of Welbeck Abbey, in Nottinghamshire. In this contest the Wolseley Company did not take part. In the September trials both the Wolseley cars running down a moderately steep hill with brakes off and engine free stopped within a length, and with such effective brake power then proved the company probably did not consider a further test necessary. On this car a water-cooled band-brake, 27, operated by the pedal, 4, acting on a brake-wheel on the differential shaft is used for short descents or sudden stops, but for long descents, a powerful leather-faced shoe brake, having on two steel rims attached to the back wheel fellys, is brought into use. This brake, 22 and 23, is operated by the lever, 3, acting differentially, the pressure exercised by both shoes being thus equalized. It is claimed for this brake that it eliminates strain from the chains and spokes, and is absolutely safe on any hill. It is doubtful, however, whether it would enjoy any superiority over commoner types under the circumstances described by Mr. Henry Sturmeay in the *Autocar* of January

4. Mr. Sturmey had tackled a rather steep braise covered with wet ice, and had reached near the top when the wheels began to slip, and, although he tried all his speeds the car slid backward down the hill. The application of the brakes did no good, so after the car had slipped back sixty or seventy yards, turning round till it faced downhill in the process, he concluded that it had a sensible conception of the right direction and let it run. Brakes to be "absolutely safe on any hill" must do a good deal more than skid the wheels.

The wheels are of the usual artillery type 34 inches in diameter fitted with Michelin pneumatic tires. The back hubs are peculiar in that they have embedded in them the center rings or supports of the sprocket driving wheels.

The framework of the car is from one piece of channel iron and



has a substantial and reliable appearance. The spring brackets are forged from the solid and being in one piece a strong and rigid arrangement results. The springs are of the usual laminated elliptical type provided with rubber buffers. The axles are of mild steel and are exceptionally heavy, the few pounds which might be saved on them being considered by the company as misplaced economy.

The body is a roomy tonneau seated for four persons including the driver; the workmanship and design of this part of the vehicle being in no way inferior to those of the mechanism.

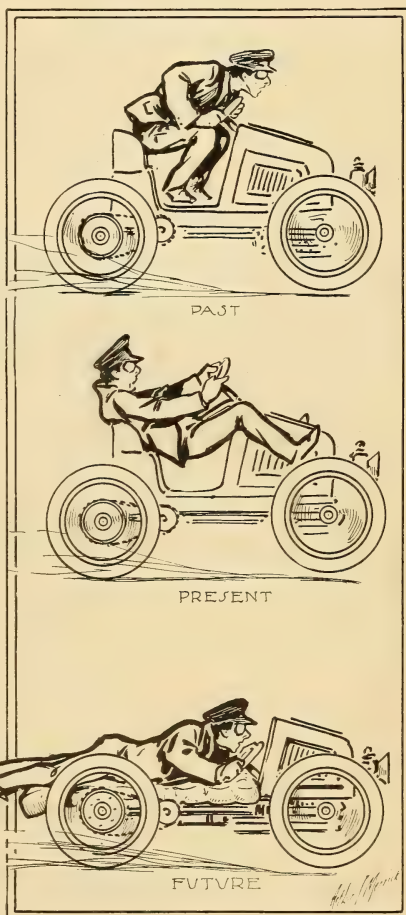
Every part of the car appears to have received thoughtful attention with the object of securing effective working, combined with convenience in operation, and lengthened wear.

## Mastery Not Easily Acquired

NONE except those who have handled the wheel of an automobile at speed have a real conception of what it is to try to master fate and also control the vehicle. When it is known that

in passing over masonry cul-where the elevation is over 6 or 8 the level of this elevation ing approach-side of the slope any-10 to 15 feet automobile great speed ac-crown and ed such an up-will not be on again until it through the where from it can then be the driver spirit of reck-is seldom or he must be of himself and that he knows he is doing fore ready to risk as merely be looked for- ing the race. feeling is that perience when elevations at ly is something that brings out heroic qualities which lie dormant in most people.

POSITION IS EVERYTHING.



What Scorching Has Done and May Do

the average vert in France vation is not inches above the road, and is gradual, be- ed on either crown by a where from long, that an running at ter leaving the having receiv- ward impetus *terra firma* has sailed air for any- 15 to 25 feet, imagined how must show a lessness that brought out ; such a master the machine exactly what and is there- consider the a happening to ward to dur- Whatever the fast drivers ex- taking slight speed, it sure-



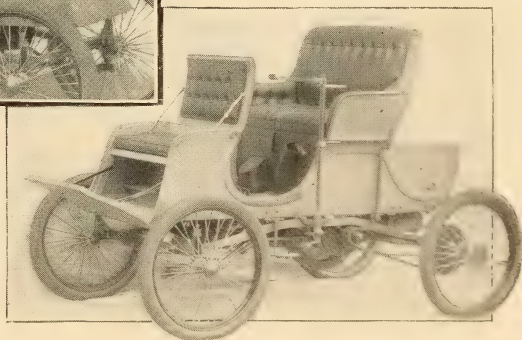
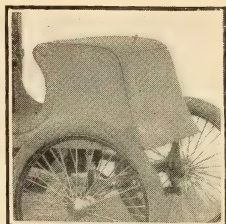
## For the Soldier in a Hurry

**S**HOULD it ever become necessary for the soldier of the Austrian army to remove himself rapidly from the scene of action his government proposes to give him every opportunity for doing so. For the purpose of reconnaissance the Austrian military authorities have had built a motor vehicle which is to be equipped with three separate motors, each working independently of the other, and which unitedly, are capable of propelling the vehicle at a speed of seventy-five miles an hour. Imagine that affair leading a retreat, will you please.

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### Two Carriages in One

In recognition of the public's demand for a light motor vehicle which can be made to accommodate more than two passengers and yet retain all of the good qualities of the single seated carriage, the Knox Automobile Company out the convertible here shown.



In either its single or its two seated form the new vehicle is equally satisfactory in appearance. The main seat is very broad with a high, comfortable spring back, which in connection with the vehicle's lengthened wheel base should make it an exceedingly comfortable conveyance on any kind of road. To make a vehicle capable of being altered so as to carry an extra number of passengers without making the fact of its convertibility too patent is something not quite as easy of accomplishment as some might think. The one shown herewith, however, seems to be equally as good looking in its two seated as in its four seated form, a fact which will undoubtedly win it many purchasers in the future.

## De Dion-Bouton 6 and 8 H. P. Vehicles

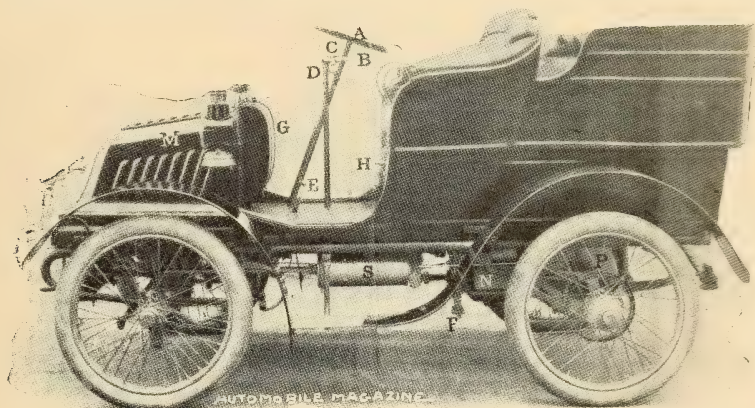
**F**RRIENDS of the De Dion-Bouton concern have often reproached the famous French makers for their attitude towards the inventions of others, but the De Dion reply has ever been to put forth new ideas, seemingly fantastic at first, but proving eminently practical when tried and eventually constituting a standard and enduring types. Take for example the light carriage with the motor at the rear which though everywhere decried at its inception, rapidly became one of the most valued forms of vehicles.

The 1902 De Dion-Bouton carriage is an outcome of this same type, possessing its fundamental features, such as the single-cylinder motor, the two speed changes and the De Dion specialized form of rear suspension. The motor is either 6 H. P. or 8 H. P. with 1400 normal revolutions. The most radical departure for this concern, however, is that in the new type they have placed the motor in front, something they have hitherto declined to do.

The lower-powered vehicle has a speed of 23 miles per hour, the higher one 30, as an average result. The weight of either the 6 or 8 H. P. carriage is about 1,300 pounds, each carrying a water tank and a gasoline tank of  $3\frac{1}{2}$  gallons. The wheels are all of equal size and of wire or wood as the purchaser may elect. The reverse motion is obtained by the agency of a pinion meshing with two toothed wheels. The old De Dion system of lubricating is done away with and in its place the splash-board now carries a lubricator pump having valved connection with four feeders, the first of which serves as an outlet for the oil, while the other three regulate its flow, at the will of the operator, into the speed change mechanism and the driving gear.

The placing of the entire weight on the two axles in the new model is evidently a much better idea than the old one, since the motor, with its heavy appurtenances of water and gasoline, batteries, etc., in front, counterbalances the weight of the body, speed mechanism and passengers at the rear. The old De Dion idea was a heavy strain on a vehicle whenever high rates of speed were attempted. Of course the change of direction of the tiller with inclined bar cannot fail to be remarked. The front wheels are governed by a worm and a sector, which, though it is almost universal to-day, was invented by the De Dion people in 1884 for a steam tricycle. The exceptional rigidity of this bar with its vertical columns is marked. Perhaps the

angle will be criticized, but it is only a question of visual habit and will cease to be remarked when the eye has become accustomed to it ; since from a practical point of view, the arrangement is perfect. The steering gear has no lateral play ; it combines with the frame as though made from one piece, and the driver may lean on it in taking his seat, if he wants to, without causing it to bend in the least. This perfect rigidity certainly places this idea at the head of all other inventions in its line. On one of these verticle columns is a lever, *B*, which manipulates the two speed changes. Thus the steering gear is controlled by the left hand, leaving the right to manœuver the brake



and the levers *C* and *D*, governing the carburation and ignition. The driver has but one foot pedal to manage, as in the old model, which contributes in a marked way to the smoothness of travel. It acts on the exhaust, thereby regulating the motor, and brakes on the central transmission shaft when full force is applied.

### Advantages of Storage Batteries "Discovered"

An electromobile is figuring largely in one of the theatrical successes of the season in Paris, the "Voyage de Suzette." It comes on in the final spectacular scene, exciting much attention. M. Judic, one of the directors and an expert electrician, says that since the introduction of accumulators on this machine they have been utilized to brilliantly illuminate the vehicle by the aid of electric lamps, and if a night festival of automobiles should be organized this coming Summer illuminated electric carriages will be a prominent feature of it.



## Developing the Automobile

By ANGUS SINCLAIR

THE "Chapter on Mishaps" by William B. Roper in the February Number of the AUTOMOBILE MAGAZINE is in line with many of the tales of woe which one hears when four or five automobilists come together in a reminiscent mood. The stories of automobile mishaps, which one listens to with the luxurious surroundings of clubs, have a slight odor of the tales I have often listened to related about locomotives, by members of Roundhouse Stove Committees.

I have experienced mishaps with my automobile, firstly through imagining that because I had gone through the experience of handling a locomotive I did not require any training to manage an automobile, and secondly because the machine I tried to run was evidently designed by bicycle draftsmen who had no idea of the conflicting strains which a four-wheeled vehicle would be subjected to, and because they had no idea of arranging the mechanism so that it could be reached conveniently. In going through the practical experience which taught me that an automobile differed from a locomotive in requiring to be steered, I made some exciting escapades into fields, fences and vacant lots, and once was accused by a suburbanite of attempting to make my automobile climb one of his shade trees. It is enough to say that I paid for my experience.

It would be too long a story to describe all the mishaps that the automobile inflicted upon me, although I might do so without embarrassment as I was in no manner to blame for most of the troubles that I endured. But the most impressive lesson that I received was, that the automobile as turned out from many factories is still experimental, or at least in the course of early development. The automobile was the first medium of mechanical power transportation tried on land, and more than 100 years have passed since its first progenitors tried their power on country roads, and made the rustics imagine that his Satanic Majesty had taken to the road, and that he moved in a blaze of fire and thunder.

The path of the pioneer automobiles was made rugged by popular prejudice and by the prophylactic tendencies of mankind; but the real cause of the early failures of automobiles to work into favor was their habit of breaking down on nearly every journey undertaken. It

is a historical fact that one of our pioneer railroad passenger departments advertised that they always put a car loaded with cotton between the locomotive and the passenger cars, to protect the passengers from injury when the boiler exploded. Boiler explosions were not advertised as a matter of course, but they were not by any means unknown to the pioneer automobilist. Their favorite source of excitement was a broken axle which gave the outside passengers more acrobatic experience than they were prepared for. A man who lost



W. J. Stewart Autocarring Through Orange Mountains

the greater part of his nose by being thrown from an automobile, was not likely to become a friend of that line of progress.

When early automobilists were frozen out of business, the locomotive designed to run on rails began offering its services to people with peripatetic tendencies, but it was a long time before it became a reliable prime mover. The pioneer makers of locomotives, like their friends who came to grief in the automobile field, were a long time

in learning to make their machines capable of enduring the strains that resulted from jolting over a rough track. The designers of early transportation motors established their dimensions according to the proportions of prime movers that were bolted to a rigid foundation, and for a long time they failed to perceive that a liberal margin of strength was necessary to withstand the jolts and endure the endless vibration a moving vehicle encountered.

Twelve years after locomotives were working on English railways, a report was made to what was then the principal railway in the world, that locomotive power was more costly than that of horses, and bitter complaints were made about the unreliability of the engines. Nine years later, Pambour, an eminent engineer of the time, wrote that the engines belonging to the Liverpool & Manchester had to be practically renewed after working about a year, during which period they ran little more than 20,000 miles. It is well known that during the first few years of experience with locomotives in America, the companies were in the habit of advertising that their locomotive engines would pull the trains when the weather was fine, but that when it stormed horses would be employed. The precious locomotive was too delicate for being outside in stormy weather.

The pioneer locomotive designers could have given the modern automobile draftsmen pointers about inconvenient arrangement of parts. I once ran a locomotive that was built never to break down. It did break very frequently and the boiler had to be cut away from the frames before the valve mechanism could be taken down. Two Fairlie engines built in England were bought by the Denver & Rio Grande Railroad Company about thirty years ago and it was necessary to cut off part of the frames before a boring bar could be used to bore out the cylinders. Those were double ended locomotives with two smoke stacks, two boilers, two sets of valve gearings, in fact nearly everything double except the man who handled them.

A stove committee yarn is told about one of these engines which will bear repeating. The American engineers objected to running these engines and an Englishman who happened along looking for a job was hired as engineer. He worked the engine as pusher on a steep grade away from headquarters and one day he committed an offence for which he was to be suspended for ten days. An engineer was sent to take his place. The good natured Englishman did his best to explain the working of the Fairlie to his locum-tenens, pointed out the cups and oil holes to be served, the bolts likely to work loose



and explained the use of the various levers, rods, handles and strange looking appliances. When he finished, the substitute took up his bundle of overalls and remarked "Now my friend, you keep on running that engine and I will take the ten days."

British locomotive builders have not had a monopoly of building engines that were awkward to repair. Not long ago a group of engines were built by a New England railroad and they had to be jacked up so that the side rods could be put up or taken down.

There are locomotives in service today that require the leading truck to be dropped in order to reach the main valves.

Awkward designs of that sort are rare with locomotives but they seem to be common to automobiles. The cause of this is that the designers of automobiles are blundering into experience. If the users will be patient they will find perfected machines offered for their use in a few years.

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## A Day at Gettysburg

By CHARLES E. DURYEA



IN early boyhood I read Porte Crayon's delightful descriptions of Virginia and ever since there has lingered with me a desire to see those beauties for myself; so when last October brought fair weather, some spare time and a vehicle, wife and I lost no time in pointing the steering wheel southward. We had no definite plans but started for an outing the duration of which should be dependent only upon the weather, the spare time available and our own pleasure.

We followed a turnpike through the Lebanon Valley to Harrisburg where again we found a pike leading down through the Cumberland Valley which we followed as far as Carlisle. From this point we turned southward toward Gettysburg, the first ten miles being over

a poorly kept pike paralleled by a trolley car line as far as Mt. Holly Springs, ten miles nearly due south. This section of country is undulating but has no steep hills and may be traversed in any weather because of the firm surface of the road.

Mt. Holly Springs nestles at the foot of a range of mountains and is apparently a picnic ground and summer resort, by the side of which a picturesque little stream wends its way. Thus far we had followed the Carlisle and Baltimore turnpike, but here we turned to the right following the stream toward the southwest which carried us through mountainous country somewhat heavily wooded.

The road now became an almost continuous series of grades interspersed frequently with small collections of houses only large enough to support a combined store and post office. In many places the surface of road was hidden by a carpet of pine needles over which the vehicle ran as softly as if on velvet. The many windings of the road destroyed all idea of direction and after the sun had set behind the mountains we were not always certain which was the way to turn at the various forks in the road, some of which were provided with signs contradictory to other signs not far away.

After several experiences with such misleading signs, read by holding a match up in the front of them, we reached Bendersville where we were assured of decent lodgings and stopped for the night. The carriage was immediately surrounded by almost the entire Bendersville population who turned out to examine the first "go devil" seen in that locality. Sharp appetites caused due appreciation of the good meal set before us, and the quietude, together with the mountain air, was conducive to sound sleep.

On looking out next morning we found the vehicle again surrounded by a curious crowd studying in daylight the mysterious affair of the night before. A leak from the water piping kept them all at a respectful distance under the belief that it was gasoline and might take fire at any minute, while many of them were quite certain they could smell the odor of gasoline arising therefrom, and it required a lighted match dropped into the nearest pool on the ground to convince them of their mistake. From Bendersville nearly due south to Gettysburg, the road, although supplied with a sufficiency of grades, was not mountainous, while its surface was generally good. It was ten o'clock when we saw Gettysburg in the valley ahead of us and shortly afterward we were upon one of the avenues of crushed stone which connect the various objects of interest on the famous battlefield.

We had imagined a wooded hillside as the battlefield but, like most imaginary pictures, this one was entirely wrong. The grounds over which the first day's battle was fought are now largely free from woods while a line of monuments along the beautiful avenue marks the positions of the various bodies of troops. Leaving the Carlisle road we followed the avenue to the west and climbed the northern end of Seminary Ridge where much of the first day's conflict occurred. Here a steel tower rises above the trees and permits a view of the surrounding territory, giving one a grasp of the situation impossible to obtain otherwise. After driving along the northern end of the Ridge we retraced our way to the



Under Culp's Hill Tower

southeast to Barlow Knoll : the scene of another unsuccessful stand in the first day's battle.

From here we followed the Harrisburg road into the village, overtaking a single horse and buggy driven by two women. After many gesticulations they drew up at the side of the road and waited for us to pass, which we did cautiously so as to avoid scaring their horse. The trouble with this animal, however, seemed not to be



fright but disinclination to proceed, and for some minutes after we passed the women could be seen coaxing him to move, even going to the extremity of trying to lead him, and finally they did succeed in getting him to proceed once more. Such whims do much to destroy the mental picture of the horse we formerly admired, and teach us to be patient when the motor, never without some good and sufficient reason fails to do its duty.

Being nearly noon, we stopped at "the only temperance house in town" where we enjoyed a good dinner, after which we started for the scene of the second and third days' engagements. We proceeded southeast following a beautiful avenue which slowly wound around and up to the summit of Culp's Hill on which another steel tower gives a second view, more beautiful than the first because of the nearness of the cemetery and the village. This hill is almost free from monuments, but the clear air, the bright sunlight upon the autumn leaves and the general diversity of the surroundings made a picture long to be remembered.

Here we saw a number of those splendid soarers, the turkey buzzards, not beautiful in appearance but fascinating in their motionless flight, as if by it they were attempting to show mankind how easy it was to utilize the force of the wind to annihilate distance without labor. After enjoying the scene until we were uncomfortably cool, we descended from the tower, took a snapshot of the only monument near and again started. With a beautiful descent before us it was not necessary to employ the motor, so we allowed the vehicle to coast along the winding curves toward the Cemetery through the gates of which we were soon passing.

Here is a beautiful stretch of ground dotted thickly with varied monuments in memory of those whose sacrifice largely determined whether the Civil War should be carried into the North or not. The magnitude of this sacrifice became more apparent when we looked at the number of graves and thought of the 180,000 men engaged in that three days' conflict in which more than 40,000 were killed or wounded. This appreciation was further heightened as we left the Cemetery and proceeded along the hotly contested battlefield toward the "Round Tops," still higher elevations to the southward.

Here the country is not only rougher but many rocks and boulders are found, while in the valley at the foot is the Peach Orchard, the Wheat Field and Devil's Den; scenes of fierce fighting seldom if ever equaled. "Big Round Top" is so steep that only

foot paths reach its top. From here the view is more magnificent than ever and it was with regret that we accepted the warning of the lengthening shadows and again moved forward and downward.

We next crossed the valley following the beautiful avenue to the southern part of Seminary Ridge along which we proceeded north on the drive, the total length of which was nearly 20 miles. From Seminary Ridge a beautiful view is had westward and northward toward the mountains from which direction the Confederates came, and eastward over the valley in which the hard fought battle eventually



On Seminary Ridge

took place. A few old cannon, sleek and peaceful looking, call feebly to our minds the fierce scenes enacted there, but the general impression made upon us was one of beauty and a stronger realization of our obligations to the men who on that ground so nobly did their part that we might have peace.

As the sun lowered the wind increased, carrying up the western side of the Ridge clouds of copper-colored dust which the long spell of dry weather had allowed to cover the roads, and into this we turned westward towards Hagerstown. So thick at times was this dust that

we simply could not see anything, while at the same time the wind resistance was so great it could be felt checking the progress of the vehicle despite its high power and the down-hill direction in which we were traveling.

We chose the western route toward Waynesboro instead of the southern one toward Emmitsburg, and along it we were soon again passing through the Blue mountains.

The road as it became less traveled became more picturesque. It narrowed in many places to but little more than a ditch, and quite frequently we wondered how we would ever be able to pass a team in case of meeting one ; a question we fortunately were not compelled to answer. At the village of Fairfield the single street was lined with farmers' horses which seemed to pass the word along and take fright simultaneously. We proceeded slowly, but in spite of this, we were obliged to unhitch one horse from his vehicle before we could pass without danger. This was by long odds our worst experience with scary horses and can only be explained on the theory that the animals had entered into an anti-automobile conspiracy.

A little later we came to a pike which, having a hard surface, afforded us relief from dust and ditch driving. Along this road were two or three Summer resorts beautifully located amid picturesque surroundings. After passing Charmian the road rapidly descended, winding around a number of sharp corners with steep mountains on one side and a deep ravine on the other, across which could be seen a beautiful valley. Although this was a toll road but once only were we asked to pay for its use ; no ruling apparently existing regarding automobiles. The five miles across the valley to Waynesboro were quickly covered. From here we once more turned southward and arrived in Hagerstown shortly after dark.

Our trip from Carlisle had taken slightly more than a full day, each moment filled with the beauties both of Gettysburg and of the mountains.

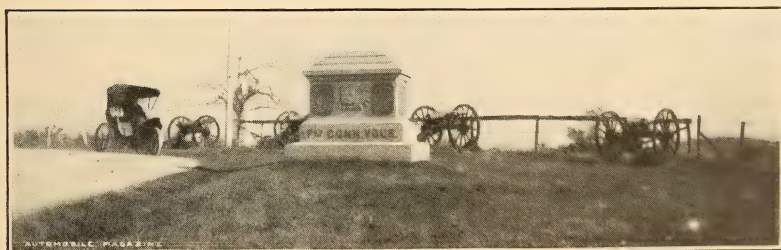
While Gettysburg may be reached more directly from Philadelphia, via Lancaster and York ; our road, via Reading, Harrisburg and Carlisle is commended because it offers a change of scenery, besides permitting of a circuit being made which is, of course, much preferable to returning by the same road. With the exception of fifteen or twenty miles between Mt. Holly Springs and Gettysburg, which could be avoided by going another way, the roads are hard and therefore not likely to be rendered impassable by a rain storm.



From Hagerstown we went to Antietam, spending some time on the battlefield there, and thence to Harper's Ferry, Charlestown and Winchester, each of which offer scenes of much beauty. Returning, we came via Martinsburg to Hagerstown and from there straight on up the Cumberland valley, passing through Chambersburg, Shippensburg and Carlisle *en route*. The roads were found to be quite good for a high-powered vehicle, particularly one of light weight provided with good brakes. We were advised that a splendid pike traverses the Shenandoah valley as far as Staunton and probably further, but lack of time prohibited us from investigating this, much as we wanted to.

The foregoing fragmentary account shows that this section is an excellent one for automobile touring, not only on account of the beautiful scenery among the mountains, but of the historical interest as well, of the territory traversed. Much of the rush of the North is absent south of Mason and Dixon's line, where the inhabitants grow old without effort. They are not worried as to how to pass the time elapsing between birth and death, they simply sit still, enjoy the sunlight and the scenery, and let time go by.

We reached home eight days after we had left it, with many pleasant memories of our outing, particularly that portion of it spent in and around Gettysburg. Perhaps I can give no better proof of how much we enjoyed ourselves than to say that already we are planning a much longer trip of the same kind for next Summer.



## Long Island's One-Hundred Miles

**A**RMED with the knowledge begotten of experience in planning and carrying out the first endurance run held in America, the Long Island Automobile Club believes that no adverse climatic or other conditions can defeat it on the occasion of its second annual 100 miles, no-stop run which is announced for April 26. In connection with the hundred miles a hill-climbing contest on Roslyn Hill is billed as a portion of the affair.

President William Wallace Grant has named a special committee to conduct the event, consisting of the Board of Governors, the Technical Committee and the Good Roads Committee. This places the preliminary and final plans in the care of a number of the members who were instrumental in making the 1901 event the success that it was. Awards will be on percentage basis and certificates of efficiency will be given ; silver cups will be awarded to the winners in the hill-climbing contest.

A special dispensation will be granted to steam vehicles to stop and take fuel, water and gasoline. Hitherto steam vehicles were unable to compete in these tests because the contestants were penalized for all stops. This year there will be stations twenty miles apart, at which steam automobiles may stop to take aboard fuel without being penalized.

In the classes for steam and electric machines all powers and weights will be recognized as on a par. The gasoline machines only will be classified according to weight. Those under 1,000 pounds will form one class, those between 1,000 and 2,000 pounds will be kept distinct, while those weighing more than 2,000 pounds will be in a separate class. Either professionals or amateurs will be allowed to operate.

Stops required for personal and public safety will not be counted against a vehicle, but when a stop of this kind is made it will not be permissible to do anything in the line of tinkering with the carriage. The driver may not even relinquish the steering gear.

The course will be virtually the same as that of 1901, and the legal speed limits of 8 and 15 miles will be strictly adhered to. Any attempts at scorching will result in prompt disqualification as it did in 1901.

## From Earth to Air

**J**UST why the automobile should be the preparatory school for the balloon is not easy of explanation. From Santos-Dumont down, or up, there is not to-day a single aeronaut of advanced achievements who, before his efforts were turned to navigating the air, did not fly over the surface of the earth behind the steering wheel of an automobile. If any explanation be possible, it is perhaps due to the insatiable desire of the expert automobilist to go faster, yet faster and faster, ever faster. Laws, civil, mechanical and others, place a limit upon his speed on the earth's surface. His eyes turn heavenward and there is the broad expanse of space ; ungov-



The Fair Samaritan of the Sleds

erned, untravelled, unhampered and unfilled. From that moment the charms of automobiling pale into insignificance and the possibilities of aerigation become all possessing. Among the latest graduates from terrestrial traffic to aerial is M. Girardot, the unlucky hero of many a hard fought automobile race. M. Girardot will brave the dangers of mid-air with an airship fashioned after the model of a submarine boat, with an aluminum car in its center, the entire affair being driven by an explosive motor and a large propeller astern. For his sake and for the hitherto good repute of the motor propelled balloon it is sincerely to be hoped that M. Girardot's ill luck will not mount upward into space with him. Motor accidents on land are bad enough ; but a mile above it—well, they are not likely to become continuous performances, that's all.



## A. C. Calls for a National Organization

GRACEFULLY acknowledging that its plans for a national organization of those interested in automobiles and their use were not universally favored, the Automobile Club of America, as befits its high position, adopted the following resolutions at the last meeting of the club's Board of Governors:

*Whereas*, The club's efforts to form an affiliation with other clubs in this country has not met with a sufficiently cordial acceptance, and

*Whereas*, It has met with very considerable opposition by a number of leading clubs; it is therefore

*Resolved*, That the affiliation as proposed be abandoned and the president is instructed to cancel the agreements made with these clubs who have already signed, by giving them 3 months' notice, or to cancel them at once by mutual consent.

*Resolved*, That this club suggests to the clubs who have refused affiliation (namely the Automobile clubs of Chicago, Massachusetts, Long Island, Rhode Island, Philadelphia, and Worcester), that they, with ourselves, call a convention of 2 delegates from each club, to be held in Chicago during the month of March, that convention to organize a national association.

The way is now clear for the prompt formation or recognition of some form of organization which will be as broad as the country whose name it will bear, and as powerful as the objects which it will be pledged to uphold.

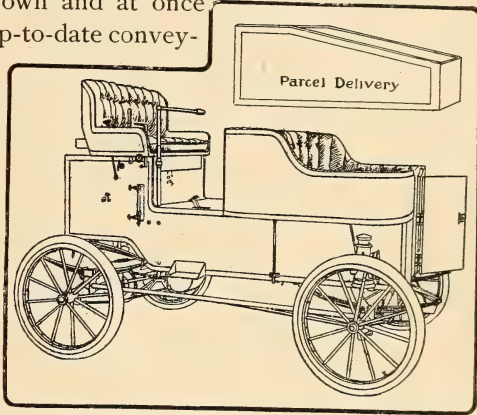
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## To Dine in Good Company

The third annual dinner of the Automobile Club of America will be held on Friday evening, March 7, in the Waldorf-Astoria. The club has extended invitations to M. Jules Cambon, Ambassador of the French Republic; the Chinese Minister, Wu Ting Fang, both of whom are enthusiastic automobilists, and also to the Governors of New York, New Jersey, and Massachusetts, Mayor Low of New York, Gen. Nelson A. Miles, Senator Depew, Senator Platt, Thomas B. Reed, William C. Whitney, Gen. Avery D. Andrews, Samuel L. Clemens, Frederick Nixon, Speaker of the Assembly; Jacob A. Cantor, President of Manhattan Borough; Assemblyman Allds, Simeon Ford, Edward A. Bond, State Engineer; Henry I. Budd, Commissioner of Highways of New Jersey; John R. Hegeman, Thomas A. Edison, and Martin Dodge.

## Any Motor or Any Purpose

**I**N the newest product of the Steamobile Company the favorite tonneau has literally as well as figuratively been brought right to the front. As will be seen by the drawings the passengers are placed where they may enjoy some of the pleasures of riding with very much less of the discomforts thereof than was formerly the case. When the owner of the new vehicle finds trade treads upon the heels of pleasure, and business not enjoyment must be the purpose for which the vehicle is employed, he removes the passenger tonneau, replaces it with the body shown and at once the carriage becomes an up-to-date conveyance of the light express wagon type. With a wheel base of six feet, tread of four and a half feet, 36 gallons of water and 12 of gasoline, the vehicle weighs 1400 pounds. While the motive power is steam the vehicle has been so designed that with but little expense and trouble either an explosive engine or an electric motor can be readily substituted.



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### There is Danger in this Measure

There has been introduced at Albany a bill which provides that it shall not be lawful for any person to operate or manage any boat, launch, vessel or engine, the motive power of which is gas, oil, naphtha, or electricity, without qualifying as an engineer. While at first glance this seems to be a strike aimed more particularly at the owners of launches, yet, should the bill become a law, the incorporation of the word "engine" in its provisions might quite easily be used to force every owner of an automobile to either qualify as an engineer himself or else hire some one who had qualified. On general principles the bill should be defeated, and to make this a certainty the representatives of the automobilists should exert their influence and well proven ability against the measure.

## More Macadamized Roads Planned

**A**S a direct result of the demand for good roads, created and fostered by the automobile owners and users, a meeting of the American Roadmakers of Macadamized Highways was held in New York on February 13. Representatives of 27 States were present, and the following officers were elected:

Henry S. Earle of Detroit, Mich., president ; Edward A. Bond, State Engineer of New York, first vice-president ; R. H. Thompson of Seattle, Wash., second vice-president ; C. P. Rodgers of Houston, Texas, third vice-president ; William L. Dickinson of Springfield, Mass., treasurer ; W. S. Crandall of New York City, Secretary ; and Martin Dodge of New York, Director of Public Road Inquiry.

It is the plan of this organization to agitate the idea of having macadamized roads constructed between the capitals of each State in the country. These inter-capital highways are to be constructed at the expense of the States, the various communities through which they run, and the Federal Government, on a basis which will make the cost fall equitably upon all those who are directly benefitted by the improved highways thus produced.

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## Making Scorching a Misdemeanor

A bill has been passed in the New York State Senate which amends Section 666 of the Penal Code in such wise as to make that section declare that :

Any person \* \* \* who drives or operates an automobile or motor vehicle, whether the motor power of the same be electricity, steam, gasoline, or other source of energy, upon any plank road, turnpike, or public highway within any city or incorporated or unincorporated village, at a greater rate of speed than eight miles per hour, except where a greater rate of speed is permitted by the ordinance of a city, or upon any plank road, turnpike, or public highway outside of any city or incorporated or unincorporated village, at a greater rate of speed than twenty miles per hour, or upon any bridge at a greater rate of speed than four miles per hour, is guilty of a misdemeanor.

The intent of the Senate bill is to make fast and reckless driving of motor vehicles punishable by imprisonment. The infliction of fines has been proved by experience to be an inadequate deterrent to the scorching proclivities of a few owners of high-powered vehicles, and while the new law is not all that might be desired it may accomplish what its friends say that it will.



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## The Everyday Automobile

AS long as there is a sufficient demand for high powered touring cars and racing machines to keep manufacturers busy, the everyday automobile must take a back seat and wait until the novelty or "fad" subsides. But the future of the automobile industry does not rest with the special machines mentioned. The touring car can be likened to a "demonstration vehicle," illustrating to the country at large that motors can be successfully used for such work, while the racing end of the business will always have a following.

The future of the industry, however, must come from the everyday automobile and the business motor wagon. The average man or woman would be practically satisfied with an automobile which would serve them as well as a good carriage horse and at the same time be free from his objectionable points. The horse, if a good one, gives fairly good satisfaction as to speed on public highways, and is fairly

reliable, probably as much so as the average motor. His one great drawback is that he has the annoying habit of requiring just as much care and food when he is idle as when working, and this fact alone prevents many of the great middle class from keeping a horse. They do not mind caring for him when they want to use him but object to playing coachman six days a week for the sake of driving a part of the seventh.

The motor vehicle meets these objections exactly and when manufacturers get down to business and begin to build everyday automobiles their use will increase many fold. It must be remembered, however, that to completely meet the requirements of the average person the motor must be as capable of use in all kinds of weather as the carriage is, and must be so constructed as to readily lend itself to being enclosed in storm to protect all the occupants. The question of speed and power will settle down to a fair average with probably twenty miles an hour as the maximum and power enough to carry you anywhere you care to go at speeds depending on the condition of road and grade.

The everyday automobile will be the backbone of the industry inside of three years.

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## The Arrogant Motorist

**A** HEAVY affliction which many owners of automobiles are suffering from is the chauffeur, or motorist as he ought to be called.

Many people who are fond of automobile sport, do not like to do the work of caring for the machine and keeping it in working order, and so they employ a man whose duties are similar to those of a coachman but he must understand the mechanism of the automobile and possess the mechanical skill necessary to effect repairs. It is easy hiring a man who can handle a machine, but to find one capable of making repairs is another matter, and it has become common to hire machinists as motorists and that individual is causing no end of trouble to his employers. A machinist is a sort of aristocrat among artisans who may sometimes be induced to accept good wages and a comfortable position as motorist when the duties are confined to operating a machine and keeping it in repair; but he scorns to perform anything which he considers menial duties, and here friction between him and his employer generally results. Employers of motorists as a rule think that keeping the carriage clean,

charging the water and gasoline tanks, filling the oil cups and seeing that no matter out of place is present to interfere with the operating of the machine, are among the duties of the man they have hired, but they frequently find that their motorist is as intractable as a spoiled cook.

Wherever automobile owners congregate for social intercourse, and for the exchange of motoring romances, the motorist soon becomes the subject of conversation. His whims, unreasonableness and shortcomings form a fertile subject of conversation, and the lords of creation find as many grievances to complain of about the motorist as the lady presiding over the household has against maid servants. Here are the words of a complaint as expressed publicly at a club meeting. "I hired a machinist as chauffeur and he handled the automobile very well but he would not clean it, would not wear livery and wanted others to have the machine ready for starting. He thought that his entire duties were performed when he handled the vehicle and kept it in working order. I made the coachman wash and clean the machine which caused much heartburning, then the motorist objected to the way the coachman did the cleaning and washing and demanded that the work should be done by the house servants. These rebelled and I had to let the man go." That is a fair specimen of many other tales of woe daily told.

It seems to us that the remedy for this source of inconvenience and annoyance is the training of a class of men capable of filling the portion of motorist. It is not more necessary that a motorist should be a machinist than it is for a coachman to be a horse shoer or veterinary surgeon. Very few locomotive engineers or stationary engineers are machinists, and the men so employed perform the duties of keeping the engines in good working order just as well as machinists could do. Any intelligent American could easily be trained to do the work of caring for an automobile. He could perform the duties as efficiently as the locomotive engineer does his work, which is quite satisfactorily, and if he understood from the start that the duties of a motorist included keeping the machine clean the work would be done as a matter of course. Training schools ought to be established where men could be instructed in how to manage and how to care for all sorts of automobiles. Under efficient instructors the duties could be learned in a few weeks, and for a man of natural mechanical ability proficiency could be attained in a few days. If such schools were established many automobile owners would take a



course of instruction and the information obtained would save them no end of trouble on the road. Trifling disorders frequently make automobilists lose the pleasure of a whole day's outing which could be prevented by a little elementary knowledge that it would be the duty of a training school to impart.

Correspondence schools are springing up all over the country where people belonging to nearly every trade and occupation receive instruction concerning the principles underlying their business and in some cases details of their work. It seems to us that the ordinary automobilist is a good subject for the attention of a correspondence school. Their instructors could inform scholars concerning the construction and operation of the various machines, point out the difficulties most likely to be encountered and explain how they could be most easily remedied. The annoyance that would be prevented by such a course is well worth performing some labor to acquire.

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### Colorado Needs Educating

General William J. Palmer, a wealthy Western millionaire, recently offered the city of Colorado Springs a park site. To emphasize his anti-progressiveness, the General inserted the following clause in his deed of gift :

"Until horseless carriages shall be improved so that they are as noiseless and odorless as horse-drawn vehicles, horseless carriages shall not be permitted to enter or travel over or through any portion of said property herein conveyed for purposes of a park."

From the foregoing one must conclude that the General never saw an electric vehicle, or else he intends to make his proposed park a special haven for nervous animals and incompetent drivers. Of course, even a Colorado general does not expect to stay the onward progress of the motor vehicle, and why he should thus foolishly attempt to encourage the use of animals, unable like himself, to recognize the inevitable and become reconciled to it, is beyond the comprehension of anyone who is not himself a Colorado general.

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Automobiling in its best bib and tucker assembles in Chicago on the first day of March to see and to be seen. Greater even than the horse show is the importance of this show to those who flock to it. Architecturally and otherwise the horse has not materially changed since the year One ; as he was when Caligula deified him so he is to-day when Casey drives him. With the automobile all this is

different. The vehicle of a twelve-month ago is so woefully and palpably a relic that it is as friendless as a defeated politician, while its successor of to-day is seemingly so perfect that everyone is its admirer. Thus an automobile show assumes an importance in the eyes, not only of those who own automobiles, but of those who want to own them—which is but another way of saying everybody—that no tan-bark parade of pampered beasts can ever hope to maintain. Chicago has planned and perfected and advertised her Automobile Show in that thorough and aggressive manner which has made her famous the world over. Chicago has earned success and she will receive it. The man who owns an automobile, the man who makes or sells an automobile, and the man who desires to either buy, sell or own an automobile should visit the show, and all the indications are that he will in the present instance do exactly as he should.

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If, as now seems likely, the affiliation idea has been safely laid away upon the shelf, labeled, "Tried and found wanting," a distinct advance toward a satisfactory solution of the question all thinking automobilists are asking "What shall we do to be Saved?" will be assured. Perplexed motor vehicle owners are seeking for salvation, not only from their enemies, but from the differing brands of salvation offered by their friends. The passing of the affiliation idea will make certain the much to be desired end. Upon the foundation so wisely planned and well laid by the Automobile Club of America it will be no difficult task to erect a really national organization which will be all that its name implies. We shall indeed be disappointed if the close of the Chicago Show does not see plans at least begun for such a representative organization as the importance of automobiling merits.

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If even a very small proportion of the plans of the recently held New York State Good Roads Convention become realities the millennium of Macadam will certainly have dawned. For less than six cents added to each \$1,000 of taxation, the State could secure 1,250 miles of improved macadam roads and in seventeen years would have entirely paid for them. Long before that, however, the increased value of all property in the State, brought about by such a practical solution of the traffic problem, would have paid for the improvement several times over. Viewed from an automobilist's point of view the

entire plan is so self-evidently a wise one that it seems impossible of failure. Unfortunately, however, intelligent and progressive citizens like the automobilists do not have much to say regarding the legislation of this or any other State; we only wish they had.

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Taking into consideration the fact that the opening event of the Automobile Club of America, the non-stop hundred miles, is to be run on Decoration day when the G. A. R. and other patriotic organizations are very adverse to any affair having a sporting aspect, it would be well to take particular pains to avoid any cause for complaint. To this end it would be a wise regulation to impose upon all contestants that no vehicle geared for a speed in excess of 15 miles an hour be allowed to compete. This would keep the event well under the requirements of the law while at the same time it would not rob it of any of its desirable features. If some such check is not put upon the affair it will degenerate into a speed contest to the injury not only of the club but of the sport as well.

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The automobile is a very successful index to fools. When ordinary persons find themselves in charge of one in a crowded thoroughfare, they guide the machine as carefully and cautiously as they can, avoiding accidents to other vehicles and to pedestrians. The fool acts differently. He imagines for the time that all the earth, particularly the roadway, belongs to him and that people are watching intently to see him perform. Having in hand a vehicle with speed capabilities, he proceeds to show them off with reckless disregard of other people's rights, safety and comfort. The fool with selfish proclivities is the person who is bringing the automobile into disrepute and who is aggravating rustic legislators into enacting laws that work to the inconvenience of all automobilists.

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Never was the need of a strong national automobile organization more plainly shown than in the course of events at Albany. The "black horse cavalry," that powerful band of political mercenaries, has become possessed of the idea that the automobilists are a distinguished body of wealthy enthusiasts to plunder whom is to the cavalry leaders both a pleasure and a duty. Until the automobilists can present an unbroken front and by the prestige of a national organization defy these legislative forays the attacks will continue each year, and grow more exasperating and more expensive as they occur.



By a recent decision of the Paris courts a horse has no right to become frightened at an automobile. A young man's horse unacquainted with this shied at an automobile and in doing so unseated and killed his rider. The horseman's mother sued the owner of the automobile for \$20,000 damages for the loss of her son. The court declared that the owner of the automobile was not responsible, because all horses should be accustomed to the noise of motors and the sight of vehicles propelled by them. This ruling is one that the law givers in this country might copy with advantage to all concerned.

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To the disgrace of New York, be it said, that it is the only great city in the world which has no avenue set apart for light vehicles. Once more an attempt is being made to prohibit trucks from using Fifth Avenue during certain hours when the street is most crowded with carriages. Like its predecessors, the attempt is fore-doomed to failure. In this land of the free and the home of the (Tammany) brave, the truck driver is mightier than the millionaire in such matters as this.

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Iowa laws require all packages of gasoline to be labelled. By a recent decision, the seller of an untagged jug of the fluid must pay the damages caused by an explosion following a girl's attempt to quicken the kitchen fire. This means that the automobile driver who persists in smoking when he is filling a fuel tank is due to have more trouble in Iowa than elsewhere. If he isn't fired he will be fined.

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More than one thousand thoroughbred yearlings were sold in New York city last year for an average price of over \$800. Good! Not quite that many thoroughbred automobiles were sold during same period, but the average price was considerably higher than that of the yearlings, however.

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We recently visited a well patronized storage station with the greatest and best collection of notices and mottoes requesting its visitors not to smoke that we have seen. They were courteous, pithy, and to the point, but—the proprietor himself was smoking.

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It was once a problem how to mix oil and water, it is so no longer. Any country dealer who sells an automobilist gasoline knows all about it.

## Woes of One Automobile Man

By THE SENATOR

TRAVELING one meets with some queer people, hears some queer stories and sees some funny things done, but about the most entertaining individual I have run across in a long time was in the mill town of Holyoke, Mass., recently. He is a bicycle agent and, like a good many bicycle agents, he understood how to build a steam carriage, and this is the story of his woes as related by himself to me.

Said he: "I got the automobile fever and made up my mind I would build one, so I went to New York and bought about \$300 worth of parts from one of the supply houses, including a second hand engine. Getting them to Holyoke, I started in to build the vehicle. After finishing it, I found that I had forgotton to measure the width of my door, and could not get it out. I was in a terrible state, and didn't know what to do, but fortunately, there was a runaway, and my big plate glass window was smashed, and I got it out through the window." The writer queried whether he considered the smashing of the window a "fortunate" thing, and the auto-builder concluded it was, even though he did not get any damages, because it enabled him to get his automobile out. "After I got it out," said he, "the man who built it with me went for a run, and showed it was all right, so I asked him to get up steam the next day and we would go to Springfield, and then my troubles commenced anew. The blamed thing would go only a half a block at a time, and then we had to wait for steam, after we had got a half mile or so, I walked back home and told the other fellow to get it back the best way he could, which he did with the aid of a team. I was so mad I took it to pieces, and advertised the boiler and engine for sale, eventually selling them to some fellow out West, who after seeing same, said he would not pay the \$125 I asked for them, but after a time he sent me the money.

"I next built a gasoline carriage and that would not work, although I had a Crest motor which was all right, but I have not had a mile run out of either of these vehicles, and still have the gasoline carriage which I hope to unload in the Spring on someone." The above is a case of not knowing how to do it; and undoubtedly there are several others having run up against the same thing, who now believe that it is quite a different thing to build a bicycle and an automobile, and that there is considerably more, to the latter than the former, in the way of construction and knowledge required.



*(We desire those interested in both the manufacture and operation of Automobiles to send whatever they think may be of interest to our readers.—EDITOR.)*

## Why Steam is Preferred

**I** WANT add my mite to these pages of the AUTOMOBILE MAGAZINE from which I have derived much pleasure and instruction in reading. To begin with I am a believer in the steam vehicle. I have made the steering and control of this my especial study, so perhaps the results of my having done so will not prove uninteresting to your readers.

For our rough roads I think the gasoline explosion engine is too easily put out of order to be really useful, except in the hands of a driver who is an expert mechanic, who has made an especial study of the mechanism of his vehicle, and is able to make the necessary repairs. This means that the owner must either be such a mechanic himself or else must take with him on his rides some one who is, besides having such a man always in his employ, a thing very few men can afford.

A steam vehicle has no governor, or half-time gearing, no spring-controlled valves which have to operate with the greatest speed and accuracy—no change-speed gears and clutches—no electric apparatus.

In short, it is about as simple as a piece of mechanism can be. Its weak points are the possible danger from fire and the necessity of frequently renewing the water supply. The former will be largely done away with by use of kerosene oil instead of gasoline and the latter by the use of a condenser. Both these improvements are now being experimented with, and I think a year hence will be largely used.

As to the control, I think lever-steering in any form is inferior to a wheel and a worm-gearing. If the vehicle is light a very quick



pitch screw can be used, which will give as rapid movement to the front wheels as is safe to use—and if the vehicle is heavy a more gradual pitch can be used as it is on the large French machines, which are steered through the streets in Paris even at high speed.

A screw, even if the pitch is very steep indeed, gives irreversible steering, and is the steadiest kind of steering for high speed. Then, as to the other parts of the control mechanism, viz., the throttle and reverse levers—and the brakes—I am of opinion that many makers regard the reverse lever as a mere adjunct for occasional use only—since they put it in places which are hard to get at. The reverse should be regarded as an emergency brake, and should be as easy to get at as the throttle lever itself.

Then as to the brakes themselves, most makers fit a single band brake on the differential gear-box.

When this brake is forcibly put on it has to control one driving wheel entirely through the gears in the box, which brings a heavy strain on the gear teeth, and moreover if both driving wheels do not have the same grip on the road, it causes the vehicle to skid sideways. Two drums should be used, on the wheels themselves, or as near to them as possible, and there should be a ratchet or latch to hold the brake when applied, so the vehicle can be left standing on hills. The brakes should hold with equal power backward and forward, which very few do now.

BROOKLINE, MASS.

ELLIOTT C. LEE.

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### Oil versus Gas

I AM seeking more light. This search is literally, as well as figuratively, true. I have been trying to secure a sufficient illumination by burning kerosene in some of the best as well as in some of the worst lamps made for that purpose. In both instances the results have been so unsatisfactory that I have almost made up my mind that automobiling after dark is too strenuous and too nerve-wrecking a performance for a middle-aged man to indulge in, unless he can "let his light so shine" that he can see and be seen at a greater distance than I have heretofore been able to do with kerosenic illumination.

There is only one thing left for me to try before I give up the effort to make after-dark use of the automobile a safe and a pleasurable performance, and that is acetylene. Now, what I want to know

from some one who has had the experience is, will the acetylene lamp do what its admirers claim, and is it worth the trouble of caring for which its enemies talk so much about? Understand, I do not object to paying the price, if the purchase gives me an illuminant which has a few of the essentials of an automobile light. Among the most important of these, I believe are, first, that it will remain lighted under service conditions ; second, that the power of light shall be sufficient to illuminate the road far enough in advance of the vehicle to enable the driver thereof to see and act upon an emergency before it is too late ; lastly, it must not be so complicated as to require an expert to use or care for it. Now, do you think the acetylene lamp will come any nearer doing this than the kerosene one does?

“DENISEBROKE,” ONT.

R. V. M. SCHUYLER.

The complaints of Mr. Schuyler are in no wise different from those which have been received from others, nor his doubts regarding acetylene at variance with those of other non-users of that brilliant and convenient form of illuminant. Perhaps the best proof of the success of acetylene is that any number of vehicle owners have replaced oil lamps with gas ones, while but very few have supplanted acetylene by kerosene. With a minimum of care the maximum of satisfaction is obtainable from the acetylene automobile lamp, and we have no hesitancy in so advising Mr. Schuyler.

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### Between Purchase and Sale

WELL do I recall the feeling of innocent glee with which I got up steam in my first automobile. It was a surrey, and I had an admiring crowd. The machine was just off the boat at the wharf of one of our New England cities, and as I think of it now, the halo of verdure that surrounded me, as I steamed away up the main street, must have been as large as a bushel basket.

But, alas ! Half-way up that street, where the crowd was the very thickest, the gasoline jet clogged, and in a vain endeavor to remove myself from a not overly favorable band of critics I stripped the teeth out of the differential gear. Suffice it to say, that upon subsequent examination I found the pinions of the differential were of soft brass. There was but one cup in the four ball bearings of the rear axle. The balls in the other three bearings were put into the frame, and had spun their way in beautifully—and I, who pretended to be a mechanic, had bought that carriage !

I was speechless ; not from choice, nor from force of habit, but simply because the English language was never designed for such emergencies and my knowledge of French was limited. I pulled myself together and faced the fact that I had that abortion on my hands, hence it was obligatory upon me to live and learn. In these directions I flattered myself that I had made a fair start.

What I did with and what I learned from an intimate association with that machine, after I got it up to my home in Vermont, would exceed the chronicles of the Kings of Judea. But one bright June morning I bade it a glad farewell, and as I saw it loaded into the cars, the property of a graduate of one of the technical schools, who came up to Vermont and paid cash for it, just as I had done nine months before in Maine, I thought things which are better not written down.

SPRINGFIELD, VT.

W. D. WOOLSON.

### Keeping a "Defect" Card

**I**'M a railroad man and like many of them have felt it my duty, not to mention pleasure, to buy and run an automobile. What kind? Steam, of course—never heard of a railroad man getting anything else.

Now, in railroad work we have "defect" cards for reporting all the defects in cars, etc., and I believe it would pay every manufacturer to send out a similar card (I hear one of my friends say it would need to be as big as a house, but he's prejudiced, had lots of trouble with his machine), but to ease his feelings he could call it "suggestions" instead of "defect."

We might just as well face the truth in this as in other matters. The perfect machine hasn't been built—probably never will be, and if I was building automobiles or anything else I'd send out requests for suggestions something like this :

*To Our Customers:* We are building this machine just as well as we know how, but realize that it is far from perfect. We believe it will give you good service and guarantee to replace any defective material or workmanship within one year free of charge. But we want to make it better and will thank you to send us any suggestions which you think would improve the machine for your use. Don't be afraid of hurting our feelings, we can't afford to be thin-skinned when it comes to making our machine the best on earth.

I've made up a list about a yard long, lots of which would not be practical from the commercial point of view, but out of the bunch the



manufacturer could find some features that would be worth his while and which he ought to welcome. The maker and user have different points of view about the merits of an automobile and the combination ought to help both.

ROXBURY, MASS.

J. K. WILSON.

## Is a Credit to its Maker

THIS rather taking looking vehicle, with the sole exception of the transmission gear, was built entirely by its owner C. W. Kelsey of Philadelphia. Two vertical, water-cooled, explosive motors are power transmitted spur gear a sprocket. are hung axle and on a coil front. A burettor is gas supply head of the employed regulation. circulated belt-driven speeds for reverse, are arranged for. The entire vehicle, all on, weighs only 1,300 pounds.



used for which is with the in place of The motors on the rear supported spring in single car-used, the and the spark being together for Water is by a small, pump. Two ward and

## Automobilic Amenities

“They say one should learn automobiling from the mistakes he has made and the foolish things he has done in it.”

“If that was so, old man, you’d be one of the world’s greatest chauffeurs.”

## Automobile Club Directory

*Under this heading we shall keep a record of the motor vehicle clubs both of this and other countries, and we hope to have the co-operation of club officers in making it accurate and complete.*

*Corresponding clubs of the Automobile Club of America are designated thus \*.*

Automobile Club of America, S. M. Butler, Secretary, 753 Fifth Ave., New York; representative on International Racing Board, Clarence Gray Dinsmore; Substitute, John H. Flagler.

Automobile Club of Bridgeport, Secretary, Frank W. Bolande, 208 Barnum Avenue, Bridgeport, Conn.

Automobile Club of California, Secretary, R. R. l'Hommedieu, 415 Montgomery St., San Francisco.

Automobile Club of Cincinnati, O., Secretary, Rutherford H. Cox, 30 West Seventh Street, Cincinnati.

\*Automobile Club of Columbus, O., C. M. Chittenden, Secretary, Broad Street.

Automobile Club of Hudson Co., Secretary-Treasurer, Frank Eveland, 52 Madison Ave., N. Y.

Automobile Club of Maryland, Secretary, C. W. Stork, care Hotel Altamont, Eutaw Place.

Automobile Club of New England, Secretary, Geo. E. McQuesten, Brookline, Mass.

Automobile Club of New Jersey, Secretary, W. J. Stewart, 8 Central Ave., Newark, N. J.

\*Automobile Club of Rochester, Frederick Sager, Secretary, 66 East Avenue, Rochester, N. Y.

Automobile Club of Springfield, Mass., Stephen P. Perkins, Secretary—Automobile Club of Syracuse, Syracuse, N. Y.; Secretary Frederick H. Elliott, 515 S. A. & K. Building, Syracuse.

\*Buffalo Automobile Club, Secretary, Ellicott Evans, The Lenox, Buffalo, N. Y.

Chicago Automobile Club, Secretary, H. M. Brinkerhoff, Monadnock Block, Chicago.

\*Cleveland Automobile Club, L. H.

Rogers, 357 Amesbury Avenue, Secretary, Cleveland, O.

Columbia College Automobile Club, Lewis Iselin, Secretary, Columbia College, New York, N. Y.

Indiana Automobile Club, Indianapolis, Ind. Secretary, August Kabich.

Automobile Club of Illinois, M. Scott, Secretary, 1251 Marquette Building, Chicago.

Long Island Automobile Club, Secretary, L. A. Hopkins, 1190 Fulton Street, Brooklyn.

Massachusetts Automobile Club, President, J. Ransome Bridge; Treasurer, Conrad J. Rueter; Secretary, L. E. Knott, 16 Ashburton Place, Boston, Mass.

\*North Jersey Automobile Club, E. T. Bell, Jr., Secretary, Paterson, N. J. Pennsylvania Automobile Club, Secretary, Henry J. Johnson, 138 No. Broad Street, Philadelphia.

\*Philadelphia Automobile Club, Frank C. Lewin, Secretary, 250 No. Broad Street, Philadelphia, Pa.

Princeton University Automobile Club, Princeton, N. J. President, P. Adamson; Secretary, Charles H. Dugro.

Rhode Island Automobile Club, Secretary, Frederick C. Fletcher, P. O. Box 1314, Providence, R. I.

San Francisco Automobile Club, B. L. Ryder, Secretary, San Francisco, Cal.

Worcester Automobile Club, Worcester, Mass., President, J. W. Bigelow; Vice-President, Edwin Brown; Marshal, W. J. H. Nourse; Treasurer, B. A. Robinson; Secretary, H. E. Shiland.

### AUSTRIA.

Budapest—Magyar Automobil Club, 31 Museum Kortil.

Innesbruck—Tiroler Automobil Club, Rudolph-Strasse 3.

Prague—Prager Automobil Club.

BELGIUM.

Antwerp—Automobile Club Anverso, 34 r. Longue de l'Hopital ; Président, Baron de Bieberstein.

\*Brussels—Automobile Club de Belgique, 14 Pl. Royale ; Moto-Club de Belgique, 152 Boul. du Nord ; Touring Club de Belgique, 11 r. des Vauniers.

Charleroi—Automobile Club de Charleroi, 18 Quai de Brabant, Charleroi.

Ghent—Automobile Club de Flandres, 7 Place d'Armes, Gand.

Liege—Automobile Club, Liegeois, 2 r. Hamal.

FRANCE.

Amiens—Automobile Club de Picardie, 36 r. de La Hotoie.

Avignon — Automobile Club d'Avignon.

Bordeaux—L'Automobile Bordelais.

Dijon—Automobile Club, Bourguignons Café Americaine.

Lyon—Bicycle et Automobile Club de Lyon ; Motor Club de Lyon, 3 pl. de la Bouise.

Marseille—Automobile Club de Marseille, 61 r. St. Fereol.

Nance—Automobile Club, Lorrain, Thiers pl.

Nice—Automobile Vélo, Club de Nice, 16 r. Chauvain.

\*Paris—Automobile Club of France, 6 pl. de la Concorde ; Motr-Club de France ; Touring Club de France, 5 r. Coq-Héron.

Pau—Automobile Club, Bearnais Ave. de la Pau, President, M. W. K. Thorn.

Périgueux—Véloce Club, Périgourdin, Hôtel de Commerce.

Toulouse—Automobile Club, Toulousain Café Riche, pl. St. Etienne Société des Chauffeurs du Midi, 25 r. Roquelaine. President, M. Gay.

GERMANY.

Aachen (Aix la Chapelle)—Westdeutscher Automobile Club, Hotel Grand Monarque.

Berlin — Mitteleuropaischer Motor Wagen Verein, 1. Universitatstrasse, Herr A. Klose.

\*Deutscher Automobil Club, Luis-

enstrasse, 43-44. President, S. D. Herzog, Victor von Ratilin.

Dresden—Radfahrer-und Automobilisten Vereinigung ; Dresdener Touren Club.

Eisenach—Mitteldeutscher Automobil Club ; Motorfahrer Club, Eisenach.

Frankfort am Main — Frankfurter Automobil Club, Restaurant Kaiserhof.

Munich—Bayer. Automobil Club, 33 Findling Strasse.

Stettin—Erster Stettiner Bicycle und Automobil Club.

Strassburg—Strassburger Automobil Club.

Stuttgart—Sudddeutscher Automobil Club ; Wurtembergischer Motor Wagen Verein.

GREAT BRITAIN.

Birmingham — Motor and Cycle Trades Club, Corporation street.

Edinburgh — Scottish Automobile Club.

Liverpool—Liverpool Self-propelled Traffic Association, Colquitt street. Secretary, E. Shrapnell Smith.

\*London—Automobile Club of Great Britain and Ireland, 4 Whitehall Court, S. W. Hon. Secretary, C. Harrington Moore.

Nottingham Automobile Club, Secretary, A. R. Atkey, Nottingham, England.

HOLLAND.

Nimègue—Nederlandsche Automobile Club. President, M. J.-P. Baekx.

ITALY.

Milan—Club Automobilisti Italiani, 14, Villa Vivaio.

\*Turin — Automobile Club d'Italie Via Vittorio Amedeo II, 26.

RUSSIA.

Moscow — Moskauer Automobile Club, Petrowka, Hauschnow.

St. Petersburg — Automobile Club de Russe, President, M. Delorme.

SPAIN.

Madrid—Automobile Club de Madrid.

SWITZERLAND.

\*Geneva — Automobile Club de Suisse, Rue de Hesse, 2, Geneva.



## Railway Encouragement of Good Roads

**I**N the AUTOMOBILE MAGAZINE for last August there appeared an article accompanied by illustrations on the good work which the "good roads" train had done throughout the middle West and South. This train was planned by the Illinois Central Railroad, and now the Southern Railway is carrying on a similar enterprise. The following information as furnished by Mr. Harahan, second vice-president of the Illinois Central Railroad, is descriptive of what his company did, it appearing in the *Railroad Gazette*.

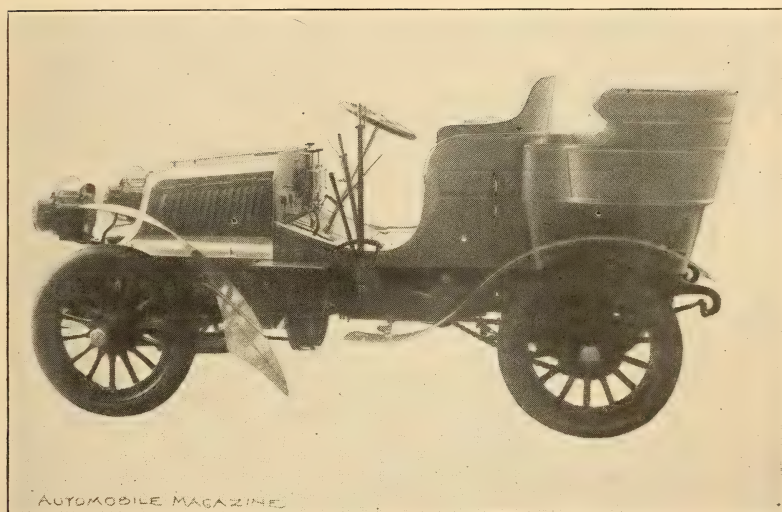
The benefits resulting from the "good roads" train run by the Illinois Central Railroad recently, in connection with the National Good Roads Association, through several States, are being felt in a different manner, owing to the different conditions prevailing in the different States.

In the State of Kentucky, where several stops were made, the turnpike roads in the interior having been model roads for nearly seventy-five years, or perhaps longer, Kentucky having been the pioneer State in the building of such roads and the National Government having encouraged such work, the improvement to be effected is not so great as that in other States. Part of the Great National Road, that was designed to extend from Washington to New Orleans, was built in Kentucky from Maysville to Paris and is still kept in splendid condition by the State, not by the United States Government, the work of internal improvement by the United States having received a quietus under Andrew Jackson. There has, however, been organized the Kentucky Good Roads Association, which has taken hold of the matter with considerable spirit with the intention of improving roads in sections of the State where they are not up to the standard.

In Tennessee following the convention held in Jackson, on Thursday, June 20, 1901, the Tennessee Good Roads Association was formed and subsequent to the trip of the train through the State of Tennessee, a convention was held at Nashville, which was fairly well attended by people from different portions of the State. Recommendations were made to the Legislature to be presented at its next session to be held in Nashville in January, 1903, and while no active progress has been made in regard to county action upon this matter, the interest in the matter of good roads will be continually agitated, and will undoubtedly produce good results.

In Mississippi at a recent meeting of the State convention of

Supervisors at Jackson, the good roads train and its fine work were frequently mentioned, and the statement was made that some twenty counties of Mississippi had already passed from the old method of working public roads to the contract system. The executive committee created by the State convention of Supervisors of Roads was charged with memorializing the Legislature for more progressive lessons along the lines of building and maintaining public highways, as people throughout the State were alive to the importance and necessity of this matter. The good roads convention held in Jackson,



The \$5,000, Four-Cylindered Gasmobile

Miss., as a culmination of the good roads county conventions of some months since, started this matter in Mississippi and the Good Roads Association organized as a result of that convention, will also memorialize the Legislature with the intention of having a conference held between the representatives of that organization and of the State convention of Supervisors, so that an agreement may be reached to work in harmony to the desired end. The impression seems to prevail that the Illinois Central good roads train did lasting good in this State: that it created a fine sentiment in favor of the improvement of public highways and fostered among the people the determination to do better by themselves in the future by the enactment of laws that will compel the counties to spend some money on public roads. Governor

Longino, of Mississippi, took high ground in his inaugural and other addresses in pointing out the absolute necessity for better public highways and has enlisted the services of the best men of the State in the agitation for good roads. The executive committee of the Mississippi Good Roads Association will meet at Jackson, Miss., on December 4 of this year for the purpose of framing a good roads law to be presented to the next session of the Legislature for passage.

In Louisiana there is an active movement for the formation of local good roads associations, the president of each of which local association is to be ex-officio member of the State Good Roads Association. This complete organization should be effected within the next sixty days. It is then the purpose to call a meeting of these delegates in New Orleans for the promotion of good roads work before the meeting of their Legislature, which is biennial and next occurs in May, 1902. There is a decided improvement in the good roads sentiment throughout the various parishes of the State as the State has already given a great deal of leeway in the matter of taxes for public roads and as the good roads sentiment improves these taxes are being levied. It takes some time to do this, but the work is going on and it is believed that within six months much good work will be done.

In Illinois there were but two stops made and, owing largely to the extreme heat and dry and dusty character of the roads to be worked over, the experiment was not as successful as it would have been under more favorable conditions.

Taking as a whole the information from the different States through which this good roads train passed it is fair to assume that the movement is well started looking toward the improvement of the roads and the more intelligent and consistent method of road building. This work is largely for the future and it will take some time before practical results can be produced that would demonstrate whether the trip of the good roads train over the Illinois Central Railroad was a conspicuous success or not. At the present writing it would seem to have been a success.

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Belgium is arranging an automobile race wherein the vehicles are to run backward only, the drivers however, not being allowed to reverse their position on the vehicle and face backward. From all this it will be readily seen that the repairers and the surgeons are looking forward to this affair with pleasurable interest.



## Homeopathic Road Improvement

**I**N a certain region of Seine-et-Oise the owner of a petroleum cycle, finding that the tax upon it was the same as upon a truck, refused to pay it. "Pay first and then reclaim the amount," urged the wily Mayor; but, not belonging to that species of sheep which permits itself to be sheared without protesting audibly, the gentleman in question declared his intention, as was his right, to work out his poll-tax for the benefit of the community. Without too much delay he received his notice from the



Mr. Ray Owen Oldsmobiling Through Central Park

municipal department to deliver 23 cubic meters of stone on different roads of his vicinity. At the time indicated the motocyclist appeared at the field of action on his machine and, having filled his pockets with pebbles, started to make his first trip. At this rate his efforts would extend over a period of more than six months. The authorities, whose ears tingled with the jokes arising at their expense, commenced to find his pleasantry unpalatable and tried every scheme to induce him to pay, but he remains implacable, on the pretence that it was not his fault if they imposed a task on him which he is unable to carry out speedily, despite the best of intentions.

## To Reward Bravery in Stopping Runaways

**E**VER alert to advance the interests of its members and the public welfare as well, the Automobile Club of America at the last meeting of its Board of Governors adopted the following resolution :

That an appropriate gold medal be donated annually by the Automobile Club of America to the police officer who exhibits the greatest bravery and risk to himself in stopping a runaway horse in the city of Greater New York.

Certainly it can not be said that the A. C. A. is a selfish organization after this. Free from any danger of the steeds belonging to its members becoming frightened and running away, the club still recognizes the unfortunate positions of those less progressive in the matter of individual transport, and magnanimously does what it can to make even more efficient the gallant service of those life-savers of the road—the mounted police.

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### Metric Measures May Help

One hundred and seventy-two members of the British Parliament have signified their approval of the compulsory adoption of the metric system of weights and measures throughout Great Britain. The Decimal Association points out in a circular that in the interests of trade the reform should be made at once. The metric system is already permissive and legal in Great Britain and in the United States. Any manufacturer or merchant who wishes to increase his foreign trade is entirely at liberty to make his goods with metric dimensions and to invoice them in metric measures. How trade is to be increased by forcing him to do so is a mystery not yet explained by the busy advocates of the Decimal Association. We believe, however, that the American automobile maker having his strongest foreign competitor in the French and the German manufacturers, would have his chances of winning a foreign market made much easier were he building and selling vehicles and parts made and sold under metric measurement.

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### Italians are Gallant Clubmen

The Italian Automobile and Cycle club contains 974 members, of which 238 are women. Count Francesco Lazzaro, of Padua, lately made the ascent of Punta di Crocetta with a 12 H. P. motor, carrying five persons over a rough road, with frequent gradients of 12 per cent. at a long stretch.

## Neither Snow nor Grade Worried It

THE picture herewith is not one published solely for its artisticness even as undeniable as that is. The vehicle, a  $2\frac{3}{4}$  H. P. Pierce Motorette, is shown climbing Waite Street Hill, Boston. The grade at the point where the picture was taken was an  $18\frac{1}{2}\%$  one. Though the snow was deep and much drifted the little carriage carried two persons to this point, where one got out and took the photograph. He then got in again and the vehicle and its two



passengers proceeded on up the hill, which at one point has a  $21\%$  grade. In another test recently made this same carriage climbed Gardner Hill with two passengers, through snow eight inches deep.

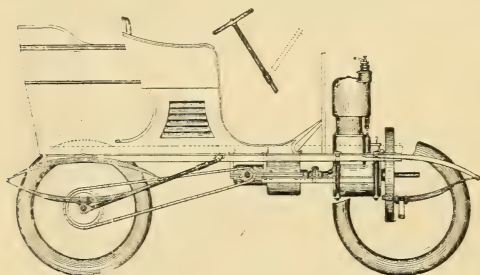
### Good Vehicles Always in Demand

Among the recent purchasers of Panhards were Messrs. W. S. Killmer, of Binghamton, and Eyrl Preston, of New York City. The former chose a 24 H. P. and the later a 40 H. P. vehicle, and Messrs. Smith & Mabley, who made the sale, received \$12,500 and \$17,500 respectively for the carriages. This is but a sample of how facts sometimes disagree with fiction. Fiction said that the public had enough of the high grade French vehicles; facts say that the public can not get enough of these foreign vehicles, because the makers of them build only the best and to do this make quality of production, not the quantity thereof, their only aim.



## For the Man with Ideas of His Own

**T**O make easy the way of the man who wants a motor vehicle upon which his own individuality has made some impress, A. L. Dyke, of St. Louis, has placed upon the market the outfit here shown. With this and the other materials which Mr. Dyke supplies the man



with a mechanical bent will find it but little trouble to turn out a vehicle to his own liking. The success Mr. Dyke has had with this special line of automobile supplies has brought a number of imitators in the

field, but none of them come anywhere near the pioneer St. Louisian either in originality of product or quality of the goods offered.

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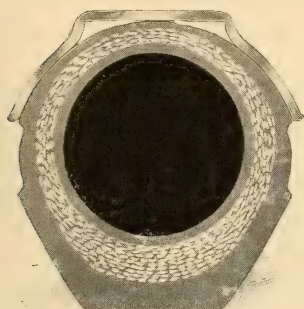
## Why the Tubular Wheel is Favored

Americans have not taken any too kindly to the heavy spoked artillery wheel which is in almost universal use abroad. True some have objected to the spidery appearance of the tangent spoked wire wheel, and sought for something which comprised both the appearance of the artillery wheel with the strength of the wire one. To this large contingent of American automobilists the Midgley tubular steel wheels appeal most forcibly. While the Midgley wheel is a distinctly American idea, built for Americans and by Americans, in neither one nor the other has Thomas Midgley, the famous racing man of other days, lost sight of the lessons learned by European builders of high grade vehicles. The result is that the wheel is meeting with an unusual success, many owners of vehicles having the Midgley wheels substituted for the ones supplied by the makers at the time of the vehicle's purchase. The home of the tubular wheel is in Columbus, Ohio, where the plant of its makers, the Midgley Manufacturing Company, is one of the industrial show places of that city.

## Rides Like Velvet

“TOUGH as whalebone” is a simile which is the shortest way of telling the story of elasticity coupled with indestructibility. Perhaps it was the possession of these qualities which induced the American Rubber Works Company, New Brunswick, N. J., to name their puncture proof automobile tire the “Whalebone.” Whether it is to the fabric, the composition or the construction, or to a combination of all three, that the Whalebone

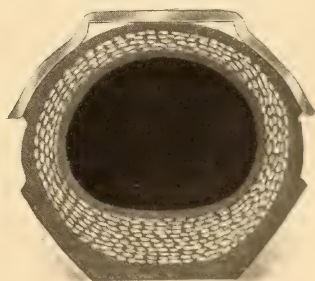
owes its immunity from puncture and most of the other ills with which tires are afflicted matters not, so long as the fact remains that the Whalebone is immune. The cuts herewith tell plainly why even when entirely deflated there are no destructive sharp bends or rim cutting with Whalebone tires as there are with the old style tire. The advisability of using Whalebone tires is conclusively set forth by their makers in this fashion :



Inflated

They are puncture proof. They last twice as long as any other tire made. They are capable of carrying double the air pressure of any other tire without increasing their diameter. They throw less mud and very much less dust. Being reinforced on the upper side they are never cut by the rim. They are more graceful in design and outline than any other tire, and give unequalled finish to the wheel. They maintain, under all loads, the same tread surface. The valves remain tight as the column of air in the tire is less

disturbed. The resiliency is better distributed, and they ride easier. The trade-mark “Whalebone-Rubber” means that the rubber in these tires is as tough as Whalebone. The fabric and rubber are *positively inseparable*, thus giving durability and strength.



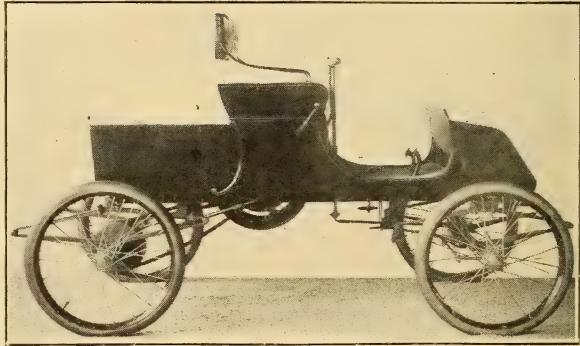
Deflated

## What the Rambler Is

WHEREVER in the world a bicycle is ridden there is the name of Thomas B. Jeffery known. What the Rambler bicycle was to the manumotive vehicle the Rambler automobile will be to the motor one.

The Thomas B. Jeffery who designed and built the Rambler bicycle did the same thing for the Rambler automobile, and the more than twenty years he spent in the study of the manumotive vehicle has not been lost sight of in the three years he has devoted to perfecting the automobile here shown. Today then, the Rambler motor carriage is not an experiment, built

by no one knows who and capable of doing no one knows what. To the contrary it is the product of an experienced and trained designer who took three years to surely accomplish what inexperienced



and irresponsible makers have pretended to do in the same number of months—and failed. Backed by the reputation of its designer and by the firm that build it, the Thomas B. Jeffery & Co., Kenosha, Wis., the buyer of this vehicle pays his money with the certainty that he is not asked to receive in return, a vehicular allegment which has neither a present, a future nor a past.

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### Low Priced, but High Grade

Decidedly pleasing are both the designing and the construction of the National Vehicle Company's new vehicle, the Electrobile. With the price of the new vehicle well below \$900, it would seem as though the demand for the carriage would tax to the limit, even the facilities of the National plant, extensive as they are.



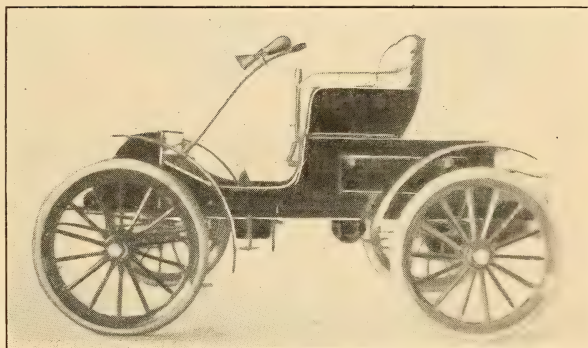
## The Friedman Automobile

ONE of the latest candidates for favor with automobilists is the Friedman runabout, a picture of which is shown with this.

As will be seen it is one of the low vehicles which seem to be growing in popularity along with its wooden wheels and large tires. This vehicle has a four H. P. opposed cylinder motor, but in the future motors will be six H. P.

The drive is entirely frictional so that there is no gear box, permitting any variation of speed that is desired. This is controlled by one lever for both directions. The clutch is thrown in by bringing the steering lever

into its normal position so that the application of power is always under control and can be released at once by merely raising the steering lever a trifle. In emergencies this should prove



easier than reaching for a separate lever. The radiation is through plain tubing in front and as there is ample cooling surface no radiating flanges are used. The entire engine is oiled from one large cup. Starting is accomplished either by crank or by foot pressure from the seat and the entire machinery is very accessible for inspection and repairs.

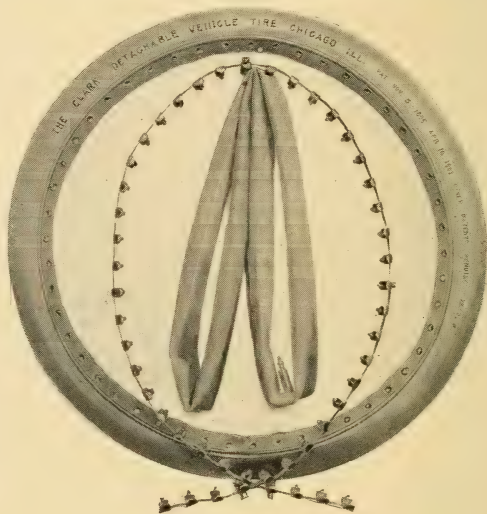
The newcomer is one of the very moderate-priced vehicles and should prove very popular as it is being manufactured in quantity and immediate deliveries can be obtained. A new catalogue is about ready, which will give complete information concerning it.

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The J. Stevens Arms and Tool Company, makers of the Stevens-Duryea gasoline carriage, have struck the idea of having a different fancy lithographed envelope for every day in the week. They are well done and should attract attention.

## A Strut-Band, a Casing and an Inner Tube

THERE is a tire which will fit any rim and can easily be placed there by any man unaided. It can be removed in whole or in part and repaired on the road without the use of tools, while its shape is such that much, if not all, of the liability to cut or chafe on the rims is avoided. Besides these manifest advantages it is supplied with a positive compressed tread which is supplied for the purpose of instantly closing cuts and punctures. The Clark Tire Company, of Chicago, who are the makers of this tire and who have always regarded themselves as tire specialists, say that after the most severe tests, extending over a long period, their idea of fastening the tire by means of a strut-band so arranged as to engage with openings in any standard rim results in giving them one of the most practical and easiest-handled double-tube detachable tires on the market. Certainly the appearance and workmanlike finish of the Clark tire bear out all of the commendation it has received not only from its makers but from its users as well.



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Judge Lacombe of the United States Circuit Court has granted a temporary injunction against the Porter Battery Company of Chicago, which is being sued by the Electric Storage Battery Company for infringement on the patent of the Brush battery.

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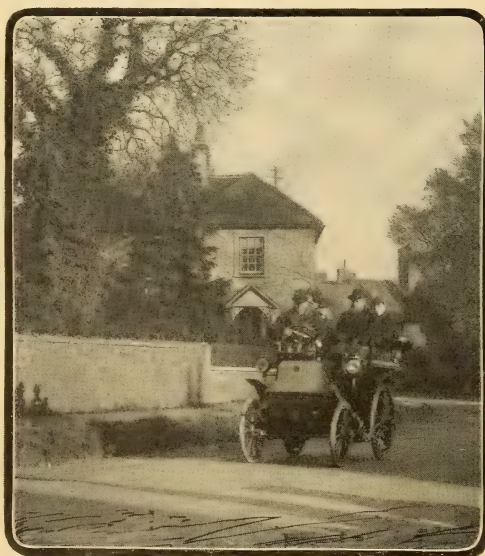
It will be noticed in favor of the automobilist who is always borrowing trouble that invariably he gives away all that he borrows and more, too.

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The purchaser of a motor vehicle who thinks he will never learn how to run one rarely does so.







# THE AUTOMOBILE MAGAZINE

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No. 4

## A Sample of American Automobiling

By HIRAM PERCY MAXIM



AS with everything else, automobiling is more strenuous in Pittsburgh than in most other cities. The down-town streets are a little worse and a little more greasy than down-town streets usually are. The hills are considerably steeper and considerably more unexpected in the abruptness with which they arrive at dangerous crossings than is considered strictly conventional. The street cars are a very great deal faster and more reckless.

In the outer districts the streets are extremely narrow as compared with the equivalent in other places. Street car tracks occupy a much greater proportion of the entire street width. Curves are very much more frequent and sharp, and the grades are very much steeper and all-pervading than is usually the case. Ravines, gulches, precipices, cuts, and dead ends abound with the most remarkable frequency.

In the country beyond the suburbs the roads are what would be ordinarily called poor. They are of clay, practically impassable until late spring or early summer, extraordinarily crooked and

hilly, but extremely interesting withal. Coal mines, oil wells, gas wells, clay and limestone quarries, extraordinary railroad crossings, bridges, and river ferries, present themselves on every hand. To the automobilist educated in accordance with conditions existing in the well-regulated East, Pittsburg and vicinity offer more chaos and general strenuousness to the mile than he is at first capable of enjoying. Where he is inclined toward timidity, one experience is usually all that he indulges in. Thereafter he confines himself to residential streets where there are no street cars, or the parks, where the precipices are safely walled and the road conditions fairly good. Where he is inclined toward the adventurous, the pell-mell of it all, the chance and the risk that require a clear eye and a steady nerve, delight him, and he usually adds one more to the feverish Pittsburg street life.

An interesting sample of a Pittsburg automobile drive is found in the short one from the East End residential district to the Westinghouse Works in East Pittsburg, a distance of some ten miles.

The East End of Pittsburg, the main residential district of the city, centers around what is called East Liberty.



East Liberty is some five miles from the down-town district, or for a more definite spot, the historical old "Point" at the confluence of the two great rivers—Allegheny and Monongahela, where the great Ohio has its birth. On this historic bit of land the old original

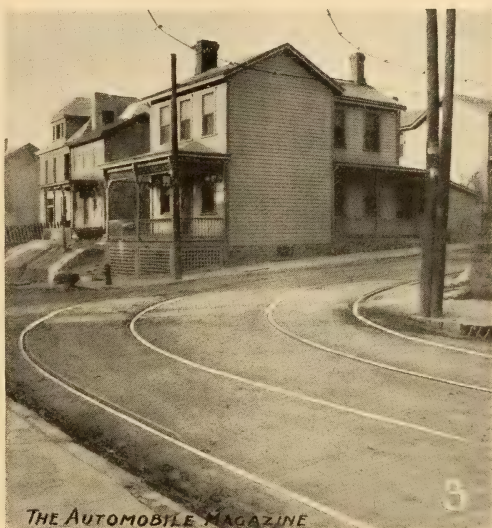


block-house yet standing is the starting point from which Pittsburg and vicinity grew.

The larger Westinghouse Works, including the Westinghouse Machine Company, the Westinghouse Electric and Manufacturing Company, and the Westinghouse Air Brake Company, are located due east from Pittsburg, and are in the outermost suburban towns, or boroughs as they are called, of what is generally understood as the Pittsburg district. To reach any of these works from Pittsburg it is necessary to pass through several of the more closely lying towns, such as Wilkinsburg, Swissvale, Braddock, and Bessemer. Each town or borough has its own ideas of what is good enough for a highway,

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Approach-

ing the city limits from Pittsburg, Penn avenue is a beautiful street, lined with luxurious and handsome residences of the Carnegies, Fricks, Heins, Hornes, Singers, and other wealthy Pittsburg families, and paved with very poor asphalt in a state of extremely bad repair. The street is occupied principally by two street car tracks, which leave no more than just a safe clearance for a vehicle between the curb and a passing car. In some places this safe clearance is reduced to an unsafe one in consequence of the street taking an abrupt angular turn and the trolley track having to follow it on a curve. The inside of this curve, as a result, approaches within something like thirty inches of the angle where the curb takes its

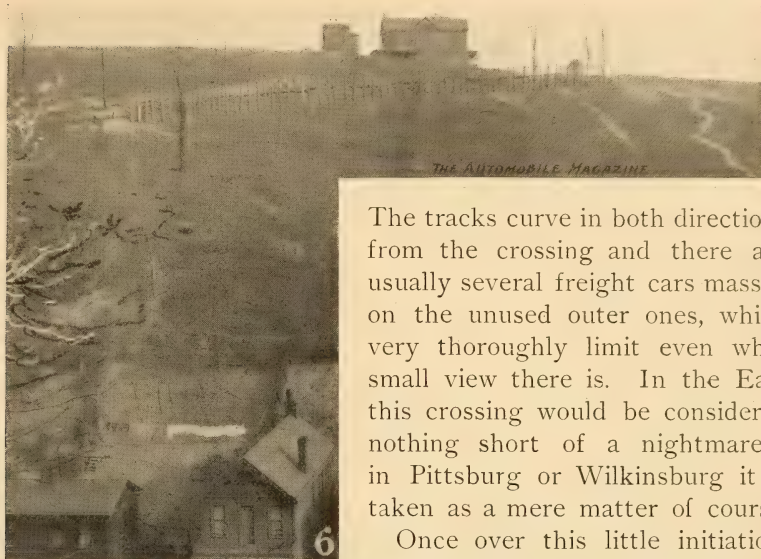
new direction. The combination forms an admirable pocket in which an overtaking car can catch and squeeze an automobile. But such a contingency is, furthermore, not as remote as might be expected, since the cars run very frequently, and between stops at as high a speed as thirty-five miles an hour.

The grades are normal for Pittsburg. This means, however, that there is always a grade one way or the other. They rarely average less than two per cent. For the last mile on Penn avenue leaving the city and approaching the city line, there must be a full mile of a steady two and a half per cent. down grade.

Passing over the city line into Wilkinsburg the street car tracks are left behind and the surface changes from asphalt to a fairly good brick. This lasts for about a quarter of a mile, when one is brought to the Pennsylvania Railroad crossing. This crossing is at grade, and the automobilist has the comfort of knowing



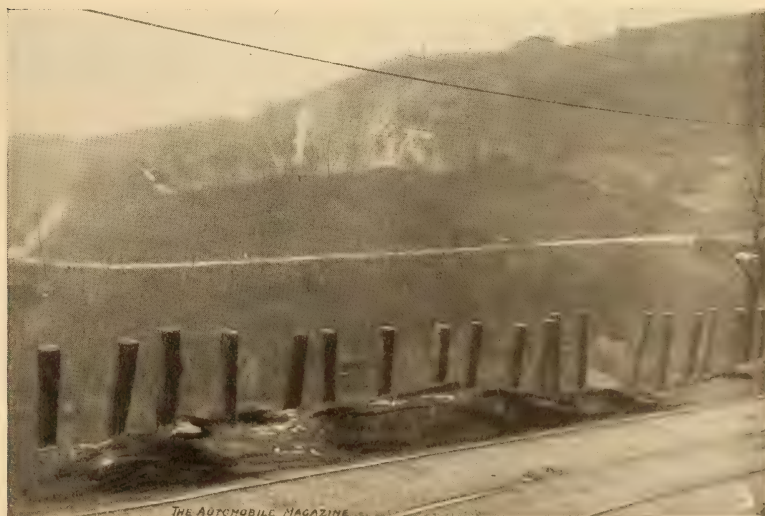
that there are ten tracks to be crossed, almost a continuous passing of trains, some of them express trains going at a very high speed, no gates, and only infrequently a watchman. The track crossings are extremely rough, making it necessary to run slowly over them if one is to avoid chancing a breakdown directly upon the railroad.



The tracks curve in both directions from the crossing and there are usually several freight cars massed on the unused outer ones, which very thoroughly limit even what small view there is. In the East this crossing would be considered nothing short of a nightmare—in Pittsburg or Wilkinsburg it is taken as a mere matter of course.

Once over this little initiation, the road continues to and through Wilkinsburg center over the vilest brick pavement that the automobile mind can conceive. The street car tracks are again encountered at Wilkinsburg center and remain with one the remainder of the route.

Passing through Wilkinsburg Penn avenue is maintained until





the foot of the hills, which surround the little valley, are encountered, when a sharp turn is made to the right. Penn avenue continues on, however, and disappears winding a crooked passage over the hills in the general direction of Baltimore and Washington. Along the foot of the hills the road runs through what is called Edgewood and Swissvale. The same succession of narrow streets and double street car tracks, sharp turns, dangerous pockets, and the everlasting succession of rushing trolley cars, obtains as elsewhere.

Representative of a very good portion of a part of this road is photograph No. 2, taken between Swissvale and Braddock. As will be seen, there is no room for a vehicle between the rail and the



curb. If anything happens to one's automobile, such as a broken igniter connection, or any other small detail that may require a stop, the driver must needs make a dive for the curb, mount it, and get at least half on to the sidewalk ere his engine stops or his vehicle loses its headway. If a halt is made once short of this position and the vehicle is a weight beyond a single man's strength to push over a curbstone, you are certainly in for it. At infrequent places there are crossroads. They are very rare, from the very nature of the country each side of the main street. There is usually an inaccessible hill on one side and a corresponding abrupt slope on the other, making any form of cross road ordinarily not only impossible but unnecessary.

In the photograph it will be noticed that the automobile had to be rushed over the curbstone and on to the sidewalk between the thickly planted telegraph and trolley poles. It is also of interest to note the effect of the grades as shown even in this photograph. There is nothing that is level. At the bottom of the dip in the middle foreground of the picture begins a bridge which spans a deep ravine. This bridge not only crosses the ravine at an angle but also has a grade of some three per cent. Also interesting, as is shown by the photograph, is the almost total lack of foliage on the trees. The photograph was taken during the summer season when the foliage should have been at its best. The majority of the trees are dead, due to the continuous smoky and sulphur laden air coming from the many furnaces in the vicinity.

Approaching Braddock more closely, the road winds and twists every few yards. In photograph No. 3 is an interesting example of the disregard



of little conventionalities in this respect. The inner rail of the curve runs within six inches of the curb of an already badly abbreviated sidewalk, while the outer rail is guilty of the same offense on the opposite side of the street. The grade approaching this curve is fully four per cent. When two street cars coming in opposite directions and an automobile, and possibly a horse-drawn wagon, simultaneously approach one of these interesting spots, the driver of the automobile usually has a job of prestidigitating on hand, which, even though successfully accomplished, does not always avoid a general mix-up, calling for considerable profanity on the part of both motormen and the driver of the horse-drawn wagon. What would be the result at any one of these points were the street traffic even fairly crowded cannot even be imagined.

Passing the main street, which runs down off the hills into the center of Braddock, the smoky atmosphere becomes more dense, and if the automobilist has not already provided himself with glasses he begins to experience severe difficulties. The atmosphere is actually so saturated with



cinders or specks of dirt that it is almost an impossibility to attempt to drive a motor vehicle of any kind without some protection for the eyes. On foggy mornings, which frequently

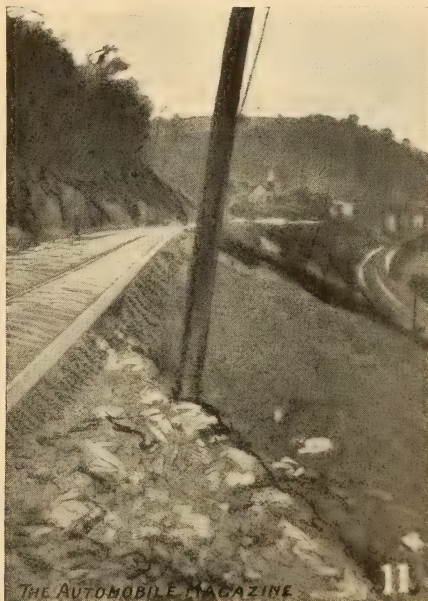
occur in this locality, this dirt in the air seems to become almost a tangible substance. One will always find, after completing a drive through it, that if there is the slightest crevice in one's wraps through which this air can find its way and impinge upon a piece of white linen, a dark blur will be formed very similar to the dirt blurs we frequently see deposited around ventilating air pipes.

Leaving Braddock, the street approaches Bessemer and the grades become rapidly worse, and the scenery, notwithstanding



the general mirkiness and chaos, really imposing. An example of the general effect of things is shown in photograph No. 4. The road from Braddock going east is shown in the right of the picture, with one of the inevitable trolley cars dashing up the grade. On the left is the great Edgar Thompson Steel Mill of the old Carnegie Steel Company, now the United States Steel Corporation. The main line of the Pennsylvania Railroad shows in the middle ground. The usual dense clouds of smoke and cinders is seen pouring from the stacks of the mill and blowing on before the west breeze to add its quota to the general haze.

The Monongahela river lies just beyond these works and can almost be seen in the photograph. Turtle creek Monongahela about the left picture. The tensely his- was over this that General companied by ington, met rout when Fort Du- 1775. Brad- was marched ground which by about the picture, and ing the hollow foreground



seen in the Historic old flows into the at what is just edge of this ground is in- toric, as it precise spot Braddock, ac- George Wash- his defeat and marching on quesne in dock's army over the is represented center of this was approach- shown in the when am-

bushed by the French and Indians from the sides of the ravine, to be described later. The battle and rout took place between what is now the railroad track and the steel mill. It is related by the contractors who built the foundations for the mill, that many interesting relics of the battle were found when making the excavations.

In photograph No. 5 this hollow or ravine is shown more completely. It is the most dangerous place on the whole road for both the trolley car and the automobile. The trolley tracks leading out from Braddock and Pittsburg turn up the hollow a short distance,

then cross the bridge just visible at the right of the photo, after which they return on the near side as shown in the foreground. This makes a well outlined "horse-shoe" curve.

Starting where the trolley car is seen in photographs 4 and 5, the grade is steadily up throughout the entire "horse-shoe," averaging fully five per cent. the entire distance. The immense limestone quarry seen in the background assists in furnishing limestone for the steel mill.

In photograph No. 6 the end of the curve is shown and a car is seen which has just completed the entire "horse-shoe." An idea of the continual grade can be seen from this photo, as also the piling necessary to keep the street from slipping down the hill or any runaway car from going over the hill should it jump the track at the curve. Some day some automobiler will owe his life to these piles.

In photograph No. 7 is shown the bridge, the grade on which it stands and the character of the bottom of the hollow. The houses are occupied by men from the Edgar Thompson Mill.

The character of the roadway is shown by photograph No. 8. The only road is that which lies between the rails of the street car track. It is no easy matter for any heavily laden vehicle to get out of the way of overtaking cars, as is seen in the photo. In the running of cars down these grades extreme care is necessary to avoid disaster. Derailing switches, set normally to derail a car,



are provided at the bad curves. When approaching one of these derailing switches, it is necessary that the car come to a dead stand still to enable its conductor to run ahead to the switch, close it and hold it closed until the car has passed over. [The switch is fitted with a spring which automatically opens it again afterward.

In photograph No. 9 a car is seen in the act of passing over one of these switches. Should a car get beyond control at this particular switch, it would plunge up the hill shown in the right of photo No. 9 instead of over the bridge and down into the ravine.

Photograph No. 10 shows this piling and the curve as it appears where approaching along the roadway. The steel mills are seen in the distance.

A half mile more and another dangerous curve and hill are encountered, and this time the last one which leads down into East Pittsburg. After turning a corner fully as bad as that shown in photograph No. 10, the road opens up and now shows "Westinghouse Valley." The air as usual is always murky, making the photographs of distant objects impossible to get clear. The works of the Westinghouse Electric and Manufacturing Company are seen in the background, and a train of ore cars on the Carnegie Company's railroad—The Pittsburg, Bessemer & Lake Erie—running along one shelf lower down the face of the hill and incidentally adding its quota to the general smudge.

The road running down the hill is a steady decline of about six per cent. Only that portion between outer rails of the car tracks is it possible to use.

Photograph No. 11 shows the close chances that must be taken. The edge of the hill comes directly to the edge of the outer rail. An automobile driver passing down such a place as this, and being forced to take this outside track in order to pass cars coming up the hill, cannot help thinking of such things as steering connections and steering axles. Any break-downs of any of these parts at such a point would mean either a plunge into the up-coming trolley car or over the hill on to the rocks below.

On several occasions I have heard of front steering wheels seizing on their axles on account of lack of lubrication. Such a thing invariably produces a lunge to the side of the vehicle having the tight box, regardless of any steering maneuvering that can be done. Such an incident on the road in question would be bound to result disastrously.



Piling is also made use of on this hill to hold the roadway from slipping down. This is shown in photograph No. 12, in which also the Westinghouse E. & M. Co. works are more plainly seen.

Finally, at the very foot of the descent, a turn must be made around a corner on a thirteen per cent. grade, the steepest of the entire run. This is an extremely difficult corner for an automobile. Coming down it is all right, as cars can be easily dodged; but going up, when one's engine is at the best struggling hard, with the cars rushing down past this corner at any speed up to thirty miles an hour, it is extremely hazardous; the greatest caution is necessary in taking this corner on the way up. On one occasion the writer avoided a bad smash up only by a few inches, and that only by reversing full power backward down this thirteen per cent. grade.

This completes about as strenuous a ten-mile automobile ride as one can find available in any of our large cities. Taken just before business it serves as an admirable awakening for a busy day and repeated after business gives an exciting finish.



# Thoroughness of French Workmanship

By C. R. MABLEY



VEN the French designer and constructor did not hit upon the perfected automobile of to-day by accident. The French automobile is the result of long experimenting and thought devoted to each and every part, from the pin and lock bolt and washer, to the cylinder casting and piston rings.

As the direct result of all this study of detail nowhere else in all the world is there produced an automobile which can claim to equal those of the best

French makers. No unimportant factor in the arrival of the French vehicle at its present high standard has been the fact that many of the best engineers and inventors in France have given and still give their entire thought and effort to the perfecting of some one detail of the vehicle, never abandoning their labors over it until they have succeeded in making it as closely akin to perfection as it is given to man to accomplish in such matters.

It is the assembling or collecting together of these individually perfected sections which has given the properly equipped constructor abroad the prestige he undoubtedly has. To take all this from the French maker will not be an easy task. To do so will entail the employment not only of the very highest grade of mechanics, but of designers, constructors and the like. Nor do I believe that for the present, at least, can one expect to overcome the reputation the painstaking foreign hand-work by even the most perfect of automatic machinery. I have found that best of the foreign automobile plants are, strange to say, equipped with a large percentage of these very same American machines. In explanation it will be said, perhaps, that the more satisfactory work of the foreigner is due to the better use he makes of American machines than the American workmen. I hold no such opinion, however, believing the only difference in the results produced is entirely due to the foreigners' more judicious use of the American machinery. Right here is another peculiar condition of affairs.

The French constructor utilizes a number of American machines in automobile manufacturing that our manufacturer will not or, at any rate, does not have in his factory, despite the fact that such machines may be bought right at hand. If the American maker had to go farther for his machinery he might, perhaps, study his requirements a little closer, and as a result of doing so invest more extensively in well selected machines to aid him in improving his product.

As I have noted, the foreign vehicle is the result of properly grouping the various products of specializing. Abroad the best automobile is rarely made entirely by the manufacturer whose name and guarantee it bears. For example, Panhard does not make the springs he uses. Renault buys his motors. Daimler declines to construct a body.

When it comes to the material entering into the construction of a vehicle the foreigner is extremely particular. He will have none but the best, utterly regardless of where it comes from or what its cost may be. So we find French steel in springs and axles combined with American hickory in wheels. All of this tells in the grand result, and when one recollects it the ability of the French vehicle to go the route and to withstand the terrific strains of doing so ceases to be a mystery. The best vehicle can only come from the most skilful use of the best talent, the best machinery, the best workmen and the best material.

The long start the Frenchman has over every other maker of motor vehicles cannot be overcome in a day, nor in many of them. It must not be assumed from this, however, that his premiership in the world of automobilism is a fixed and unalterable thing. I am too good an American and have too thorough a knowledge of the American character, which never allows itself to rest in a secondary position, no matter in what connection, to believe anything of this kind.

Another thing which has greatly aided the French maker in perfecting the vehicle he builds is the close attention he pays to the wants and to suggestions of the purchaser. Even though the man who uses an automobile solely for the pleasure to be gained from it may not have any special mechanical knowledge, yet he is often one of the keenest of critics as well as one of the most helpful. The French maker early recognized this, acted in accordance with his recognition and has advanced accordingly.



Your pleasure driver cares not so much what his automobiling costs him as he does what amusement it gives him. He insists, and rightly, too, upon the maker in return for his money supplying him with a vehicle which will take him wherever he may want to go and one capable of safely bringing him home again in at least as comfortable a fashion as he has been used to experiencing when he has used a horse-drawn vehicle for a similar purpose. All this, however, he expects to do in from one-half to one-fifth the time he was forced to lose when using a horse. The French maker sees to it that these requirements are not only met, but exceeded.

Each day sees in automobiling a demonstration that the theoretically perfect is often the practical failure, while the greatest absurdity in theory often proves of an inestimable value in practice. This is another lesson we must learn and profit from as they have done abroad, and neither the learning nor the profiting is going to be quite as easy a matter as one might think.

At present French superiority in design and construction is a condition, not a theory, to be met with and overcome. Let us meet it, then, by allowing the foreigners to teach us what we must learn and which they already know. By doing this in a little while the French type of automobile made in America will, I am sure, show wondrous results.

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### Maud Muller Motored

Maud Muller, on a summer's day,  
Grew weary of heaping up the hay,  
And said, as she looked at her bare feet brown,  
"I think I better walk in to town."

Then the judge came a-scorching along that way,  
In his new gasolene, and to her did say:  
"Come get in, Maudie, and take a ride;"  
And soon she was sitting close to his side.

Now, the judge's wife had hair of red,  
And she had forty fits as they past her sped—  
It was an innocent frolic, of course,  
But wifey's suing him, all the same, for divorce.

## A Pastel

**W**HOOP! Hello, there's another horse who has been unable to retain his foot on the slippery asphalt and has fallen down!

How quickly the crowd gathers! Everybody in this crowd has seen many a horse fall down in the street before, but the spectacle always draws them together just as if it were something absolutely new each time. The probability is that each one in the crowd, too, has some important business that requires immediate attention, but everything has to slide for the time being—for a horse has fallen down in the street!

The horse hasn't hurt itself. On the contrary, it rather seems to enjoy the recumbent position, if anything, and if it makes a movement to rise, it is evident only because its sense of duty impels it so to do. A horse's sense of duty is exceedingly acute. Didn't you know that? Why, yes. In the crowd there are two or three men who are familiar with horses. They know exactly what to do. At the animal's movement to rise they rush forward and sit on its head. All applaud, recognizing instantly that they have done precisely the proper thing.

On the outskirts of the crowd is the motor delivery wagon of one of the big dailies which has been brought to a standstill by the crowd of onlookers surrounding the fallen animal. Seated on the front seat of the automobile with its driver is a small boy, an ignorant small newsboy with tattered habiliments, a gamin, an Arab. Poor, half-starved, ignorant small boy!

The ignorant small boy listens to the discussion. What can he know about it? What education has he had, what advantages? Pish!

Nevertheless his voice rises high and shrill on the cool, clear air. He speaks:

"Aw, youse mugs, w'y doncher git up offen de nag's head an' let it git up?"

How strange! They hadn't thought of that before!

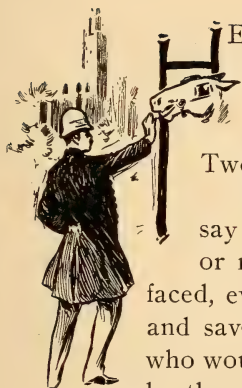
'Tis done.

The steed arises and proceeds upon its way.

The crowd disperses and the delayed motor wagon with a clang of its big gong shoots away on its long journey uptown.

## Pleasures of Policing Traffic

By JAMES RENFREW RODGERS



HE was only a policeman, but he received \$1,200 per year for standing eight hours a day at a corner where the tide of traffic more fiercely swirls than it does in any other place in America—at Twenty-third street and Fifth avenue.

An easy way to earn a hundred dollars a month, say you? No. To receive that paltry three dollars or more per day that big, broad shouldered, kindly faced, ever attentive giant risked his life a hundred times and saved the lives or limbs of hundreds of pedestrians who would otherwise have found themselves overpowered by the press of traffic at this point congested.

"Have automobiles added much to the dangers of street traffic?" the big giant was asked during a temporary lull in the performance of his perilous duty.

"Not only have they not increased the danger but they have positively added to the safety of the streets. You see there isn't any likelihood of an automobile raising on its hind wheels while beating your brains out with its fore ones, while to dodge this very trick with horses is a regular part of my duty here. It will be a blessing when the day comes that those who have to cross or travel upon the streets have only automobiles to threaten them.

"Yes, it certainly does get a bit confusing here when we have what you might call our regular trade mixing things up. Pretty bad just now? No, indeed, if it was I wouldn't be here talking. Want to see what we call our regular dose of discomfort here?"

Then there was a fumbling in some mysterious pocket in the tails of the giant's great coat, and the picture by F. T. Richards herewith reproduced was pushed into the writer's hand.

"Now that's ———," but the conversation was here interrupted while the giant went to remonstrate with a couple of irate drivers who had stopped the regular flow of traffic to indulge in the social amenities of their professions.

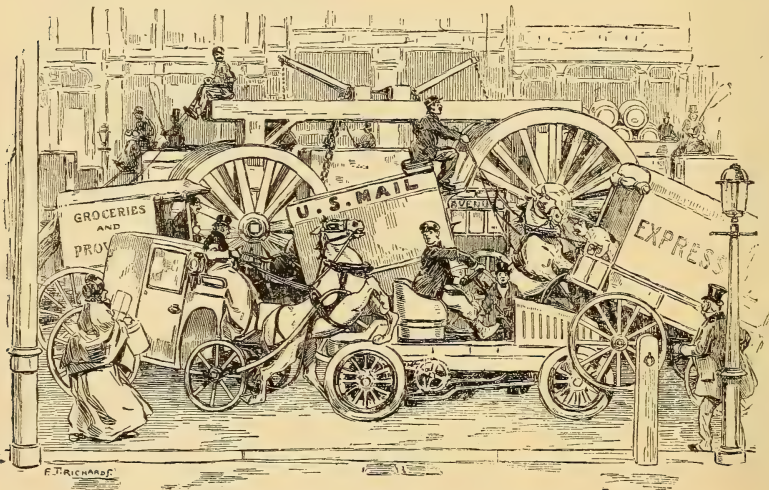
"As I was about to say," continued the bluecoat when he had returned after setting things going again, "that's the New York



Herald's idea of a quiet afternoon here on the avenue, and let me tell you it's a mighty sight nearer being true than I'd like to have it. The man that drew that knew his business, he did.

"What sort of vehicle gives me the most trouble? First, delivery wagons from the big stores, for they are always rushed along, and next the private carriages, drawn by prancing horses, with the coachman a-dreaming how grand he is and how fine the people are he has inside. But from horse car to truck all give trouble enough. Yet I have not had a person hurt in the two years I have had the crossing.

"My first rule is that it is always safer to cross behind a



vehicle than before the horses' heads, so you don't see me doing the bridle grabbing act very often. Another thing I believe is that one-half the women, although they rush past in such a businesslike way, are only out to kill time, and with no real thought of buying anything. So I don't mind holding a group of 'em back to let a wagon or a car pass, for they might as well waste five minutes here as in turning over goods at a shop counter.

"Fine days my work is always the easiest, for every one moves quickly then, and shoppers, drivers, and even the horses are good-natured. Rainy, foggy days are the worst, for the dirtier the walking the more women there are out, for some reason that I can't understand. Then they all carry umbrellas to push into my face

and into each other's faces, and between opening and closing gamps for women at the car steps and keeping the wet and rain-blinded horses from walking on 'em, I have my hands full.

"And I'm regarded as a sort of walking directory, besides. I have to know the exact location of every store, big or little, in the shopping district, as well as the hotels, theaters, ferries, railroad stations, and countless other things. Sometimes I think that when a shopping woman isn't shopping she is thinking up questions to ask the policemen. But women are too cute to say a word unless safe on the sidewalks, which is one reason why it is easy to pilot them over the crossing.

"There comes the sergeant, and if he catches me talking to you it'll mean ————" The remainder of the sentence was lost in the war of traffic as the big fellow once more calmly plowed his way through it, conveying a lot of women and children safely across to the opposite sidewalk.

## The Downfall of Mr. Pratt

By F. K. HAMILTON



ON Mr. Aaron Pratt's family going to the Ferry for their usual summer outing, they left him to the mercies of a restaurant and a lonely house. Their exodus, however, excited no feeling whatever within the india-rubber bosom of Mr. Pratt. Nature having sent him into the world with sealed pores, he went through life without receiving impression from anything he saw or heard.

"Sheds talk as a duck sheds water," was the comment of an exasperated son-in-law.

Happy Mr. Pratt! A good, kind, harmless creature, who, as unemotional as an oyster, and knowing as little of life as a cloistered ant, escaped that friction of mind which keeps the less fortu-

nate individual in a ferment of unrest. He was an apologetic-looking little man, with blue eyes, and reddish hair which hung about his head in ringlets. Although he had been married, and was blessed with children and grandchildren, it is safe to assume that nothing less decorous than wanton breezes had ever toyed with these shining little curls. His beard, which was short and bristly, was worn from "ear to ear," but growing underneath the chin left his face bare, giving him, with his weak smile, the fatuous expression of an aged sheep.

Now when Fate has an afternoon out she becomes a tricky creature, and in such an hour she spied Mr. Pratt. Straightway there stirred within him something akin to feeling. Sensations approached him, withdrew, returned, made themselves felt. Something vitalizing stole into his veins, a subtle elixir that cut its way lightly through obstructed channels. For some time Mr. Pratt believed these to be symptoms of appendicitis, but one morning he awoke from his life-long coma, stepped into the street in front of his house and looked about him as one who for the first time sees clearly. He saw that the sky was blue, was conscious that the flowers in the square were fragrant, looked long at the dancing leaves in the hedge. When he walked down to his restaurant he no longer had the gait of a man afflicted with spring-halt.

The chicken was out of the incubator.

Half an hour later Mr. Pratt stood on a corner, sniffed the air expectantly, and recklessly breaking a thirty-years' habit, turned his back on the business quarter, hailed the driver of a North avenue milk wagon, and rode up to the finest piece of cross-section road in the county, the practice ground of the Buxton Automobile Club.

"I'll get down here," said Mr. Pratt, and he always looked back to this moment as the one in which the devil entered him.

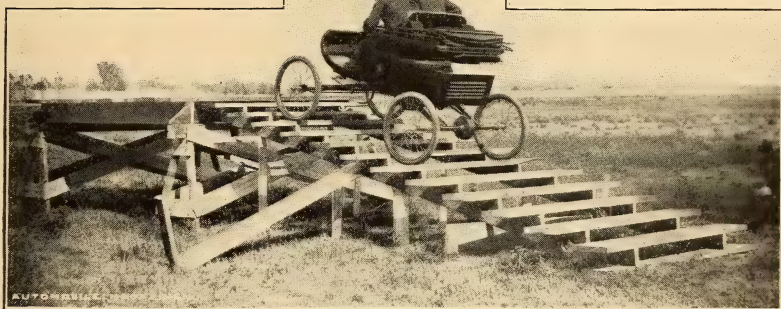
It was a scene to stir the slowest blood. Originally a three-mile strip of ordinary wood-road, it had been widened, filled, rolled, almost sand-papered by the enthusiasts who had slept in the shadow of the loco-weed, and awoke motomaniacs. Here was all the color and spirit of the race track. Something, too, of its excitement. What lightning flashes the glancing sun struck from glistening brass and shining steel. Into what shimmer of harmony did the maroon, the blue, the golden oak, the deep green play as the vehicles slackened pace. What hints of the joys of the



road in the purr of the pneumatic tires as they moved slowly back and forth at the starting point. With what devilish pleasantry the big lamps seemed to wink at one. And that thing underneath—that Mystery of Motion, compressed, under bonds, the soul of Mechanism in leash, how one exulted in one's power over that!

Something of all this was felt by the struggling soul of Mr. Pratt. Hitherto he had classed automobiling with other devices of Satan, but now he felt a strange and unholy joy rioting in his veins. Before he knew it he had accepted an invitation to take part in an informal speed test between rival vehicles. What a life-giving, exhilarating ride that was, the wind blowing cool in his face, the blue waters of the Saco flashing into view, the clouds touching the tree-tops at the end of the road.

When at the close of



Easier Than Walking Up

the speed trial, winning colors decorated the carriage in which Mr. Pratt had ridden there rose above the chorus of cheers a prolonged and blood-curdling squeal like that of an enraged bronco. It was Mr. Pratt's maiden effort at a cheer.

But let none follow too minutely the insidious undermining of a fellow mortal. The result was apparent to the most casual observer on the Buxton road. In the city it was supposed by the few who noted his absence that Mr. Pratt had joined his family at the shore, but that gentleman was living in the automobile club house at the cross-section, and had burst into a kind of hybrid bloom. He had signed the articles of faith, wore the regulation leather togs, was a perfect index to the *AUTOMOBILE MAGAZINE*, subscribed liberally to the sinking fund, and even tried to sing "Does Your Mother Know You Are Out?" at the instigation of

the boys. He imagined himself a master motorist, had ordered a vehicle, and was impatiently awaiting its arrival. When it finally came Mr. Pratt's joy knew no bounds. He almost came to blows with one of the members who wanted to try it. He touched it almost lovingly. "You beauty, you beauty," he said softly. He was actually jealous of it.

Among a lot of other "conveniences" for which the makers had induced Mr. Pratt to pay liberally, was a big hamper at the back, which, if he chose, he could open by merely reaching over the seat. Mr. Pratt considered this the most sportsmanlike equipment of all and refused to have it removed.

"But it is only for touring," objected one of his new friends.

"Let it stay right where it is," said Mr. Pratt, with unusual decision. "You never can tell when you may need a thing, and I want it handy."

He would almost as soon have removed a leg or an arm from one of his grandchildren. Every inch of the vehicle was precious to him. He wanted it all to himself. He felt an insane desire to wave his arms, to crow, to sing. As he had never before really wanted anything it was natural that possession should now make him a trifle childish.

After a good dinner, as the moon rose and Mr. Pratt looked upon the beauty of the white night, the idea came to him to take a run down to town, put the carriage in his stable, and in the early morning go to Old Orchard, four miles down the coast, and take a sea bath. While he made his preparations he was so fussy that the club attendants were barely allowed to assist in getting things into shape for the run.

"The old man is keyed way up in G," said one of these when Mr. Pratt finally started off.

What a ride that was! The good people along the road who went to bed early covered their heads in sudden terror as a strange, unearthly noise smote the stillness of the night; a noise comparable to nothing human, but something like one's conception of the hideous death-agony of some gigantic beast.

It was Mr. Pratt's pean of joy.

Sometimes he merely yelled "Hi! hi! hi!" Then he attempted to sing "Roll Along," but got into falsetto and lost his voice. As the bushes stirred in the light breeze he bowed and

waved a hand in return. There was a distillation of wild flowers and dew perfuming the roadside. Mr. Pratt inhaled it. He addressed it in unpoetic idiom. He saluted it with song. He met but one person and greeted him with a "yip!" that startled the man into a run. As he entered the city he quieted down, motored slowly, reached his place and put up his carriage without attracting attention.

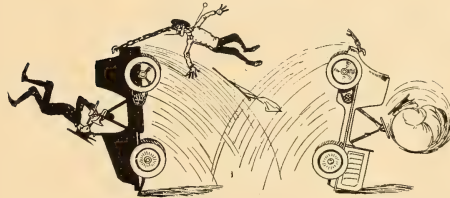
He slept little that night, was up at five o'clock, and after eating the lunch brought from the club, ran his prize out of the stable and was about to throw over the starting lever when the



Das Schnauferls motored



tug of war and



the result thereof.

thought of a bathing suit crossed his mind. Ah, truly, "Fate shapes the ends." In the ten minutes given to a vain search for that abbreviated abomination there came along the imp who lived next door, a boy with neither soul nor conscience, who took in the situation at a glance, rushed into his own home, returned with a gaudy handful of bathing attire, popped into the carriage, climbed over the seat into the hamper, and had drawn the cover down before Mr. Pratt reappeared.

The imp was well and unfavorably known to the neighborhood, among other things, for his mimicry of bird and animal



sounds. This diabolical art was his in such perfection that he had made even the minister think twice before he spoke.

Mr. Pratt went through the streets slowly. They were absolutely still, traffic beginning late in the little cities on the Saco. His hilarious mood had settled. As he went across the bridge and looked upon the reflection of the clouds in the water he said aloud, "a city of molten pearl." Something like a chuckle answered him. Startled, he looked about, but as there was no one in sight he dismissed the sound as that of some bird or animal. Everything went well, the carriage moving magically, or so at least it seemed to its infatuated owner.

Suddenly a dog appeared. There was a sound of something grinding under one wheel, then a short, sharp howl of agony which rasped Mr. Pratt's nerves like a file. Yet when he looked around there was the dog trotting unconcernedly across the street.

"Then in the name of heaven what was it that howled?" he said uneasily. He was too far off to see the little piece of wood he had run over, and of course was ignorant of the gargoyle face that was thrust over the end of the hamper at intervals of thirty seconds.

"Scat, you Pratt!"

Mr. Pratt pushed the speed lever forward so violently that the vehicle actually jumped. There was not a soul on the road.

"I'm a wicked man," said Mr. Pratt, tremulously. "Or else," he continued, "I'm losin' my mind."

He was still somewhat disturbed when he reached Old Orchard, but after a glorious ride of three miles up the beach, which was as hard and smooth as a floor, he came to a stop at some distance above the hotels and prepared for his bath. This involved nothing more complex than taking off his clothes, leaving them in the automobile, and entering the water *au naturel*. While a bathing suit might possibly have been obtained at that early hour, Mr. Pratt saw no signs of life about any of the houses, and knowing the guests would not be up for at least two hours, he decided a buff bath was safe enough.

Mr. Pratt was fond of sea bathing, which had been prescribed by his physician as necessary to his health, and a motorist must be strong! So "in he plunged boldly," splashing about near the shore at first, then feeling invigorated by the water and the exer-

cise, he swam out toward the open sea. He was enjoying a fine lazy feeling as he floated on his back, when he was interrupted by a sort of derisive hoot from the shore. He looked in that direction but no living thing was in sight.

But the automobile—it certainly was standing farther up the beach! He was sure of it. He struck out hastily and wildly for shore. The automobile moved. Mr. Pratt emitted a doleful whine. The vehicle actually gave a fiendish laugh. For one moment Mr. Pratt thought his strength was going to desert him, but he figuratively girded his loins, fairly leaped through the water, and reached the shore just as the carriage stopped. Mr. Pratt drew a long breath—but the thing started again; Mr. Pratt hurried, it stopped; then, while Mr. Pratt was still about forty feet distant, it backed a little and started away again, this time going up the beach like a thing possessed. And behold! A miracle. There at his feet lay a pair of trunks, zebra-striped, and much too small, but what would you? He struggled into their vise-like grip, drew a long breath and gave chase. He ran, he galloped, he loped, but the distance widened.

"Blast everything!" he yelled, in despair. Still he ran. At last, when Old Orchard street was reached, the vehicle turned off the beach and began the ascent of the hill, but it was surely slowing up. And now Mr. Pratt's clothes began to fly out, his trousers, his shoes, his coat, his undergarments, but he was in no condition to reason about picking them up. There was but one swimming idea in his head, to catch the runaway vehicle. He was almost near enough to touch it, but it gave a leap ahead and there issued from it a menacing howl. All the way up the hill it kept just out of Mr. Pratt's reach, a "not-good-bye-but-au-revoir" sort of defiance. Just above the corner was the Old Orchard House. Suppose he were seen! The pace was telling on him. Perspiration ran down his face and body, he was purple from exertion, and excited almost to madness by the belief that there was something diabolical about the machine. The lever worked malevolently without visible agency. Had Mr. Pratt's hair curled less tightly it would have stood on end.

They reached the corner, the vehicle seemed to waver, then with a final spurt ran up Saco road and came to a stop across the electric car track. Had Mr. Pratt, now covering ground in a

broken-winded canter, but been inspired to raise his eyes one instant sooner he would have seen a pair of stockinged legs wriggling over the back of the seat into that waterproofed pitfall at the back. As it was he reached the carriage, fell in, and sat there a moment, his breath coming in suffocating gasps. Then with some difficulty he turned and started back after his clothes, but by this time it had grown later and unhappily people were stirring. One lady on her way to early church was so overcome by the sudden projection of Mr. Pratt into her line of vision that she crossed herself hurriedly and sank in a heap on the sidewalk. Mr. Pratt alternately cursed and prayed for the next three minutes. At this juncture a hat mysteriously appeared on the seat beside him. Mr. Pratt thankfully put it on.

"It is better than nothing," he said, but as it was a boy's hat of the sailor style, and much too small for him, it detracted little from his high décolleté. It stuck on the back of his head, the two-inch ribbon streamers waving over his forehead like signals of distress. A man on his way to the early train, who was momentarily paralyzed by Mr. Pratt's appearance as he scorched down the street, recovered himself in such a maniacal fit of laughter that people began to collect, springing from all corners as they do at dog fights and accidents.

Meanwhile Mr. Pratt had reached the spot where part of his clothing should be. It was gone! He went on, desperately, almost dead from shame and fear and anger, and reached the B. & M. Railroad crossing just as the gates went down and the Portland train rolled into the station. The moment that followed was one of the wildest ever known in the history of Old Orchard. Then a policeman appeared with a linen duster, the automobile was run into a nearby stable, and poor Mr. Pratt, humiliated and crushed, burst into tears.

The imp's part in the affair was never known—that is, until now, but it was his father who bought that eighteen hundred dollar vehicle for nine hundred dollars—"and no questions asked."





## Alcohol for Automobiles

By R. F. COLLINS



**L**F the automobile has undergone such astonishing headway the last few years it is because the new vehicle is now universally regarded as one of the greatest and most direct factors in the world's economy. As a sport and a pastime it will always, of course, grow in favor and will attract a constantly widening circle of supporters who enjoy the new sensation of being master of their own transportation while profiting from an economy of time, but were it not for economy in other directions it is doubtful whether the motor vehicle would ever have become so popular as it is at the present moment.

If the motor vehicle is to become something more than a toy and expensive plaything, it must have other advantages over the horse-drawn vehicle besides mere endurance and speed. The owner of an automobile must find that it is a good investment and see, after calculating his year's expenses, that he has got more out of the motor propelled vehicle than he previously did from his horse-drawn one, and that, moreover, it has cost him less. When this fact is recognized by the world the automobile will become universal.

Doctors and other professional men will not employ horse-drawn carriages when they can get about so much more cheaply and quickly with automobiles. The tradesman will see his profits steadily increase when he employs motor delivery which will carry his goods to their several destinations in half the time and do the work of six horses; the farmer will get rid of his prejudice against automobiles when he employs motor wagons for all the purposes of transport and sees that the power used in the wagons can be utilized in the place of motors and traction engines for driving his machinery.

But personal interest is not alone in giving such a universal character to the automobile. The motor vehicle needs fuel, and this must be obtained as cheaply as possible. On the European

Continued the importance of supplying this fuel is attracting a good deal of attention from agriculturists and the different governments. In time the demands will be so enormous that the industry which undertakes to supply the fuel will be in an extremely prosperous condition, and the question which is just now such a burning one in France, Belgium and Germany is whether the future supplies are to be provided by foreign petroleum producers or by home agriculturists.

Already many millions of dollars are spent every year upon the purchase of foreign petroleum, and if this money can be put

### Illustrated Trade Note



Following Out His Ideas of a Perfect Automobile

into the pockets of native producers it will mean, they say, a permanent and marvelous revival of the agricultural industry. Besides, can the present production of gasoline possibly keep pace with the requirements of automobilism? The advocates of alcohol say that it cannot, but after all it matters little, for so long as they are favored by sufficiently high import duties they hope to force the use of alcohol on automobilists by supplying it at a lower figure than any of the petroleum products can be marketed for against a tariff.

For some years past this alcohol propaganda has been carried on in France, but it was only in the fall of last year that any real attempt was made to create a general interest in the question by the tests made in Paris under the direction of the Minister of Agriculture. Until these official tests former experiments had given only doubtful results, for not only has the consumption of alcohol been higher than that of gasoline but the former caused considerable trouble by corroding the valves of the motor which had to be ground regularly every day, and if the motor were left alone for any time there was a hard deposit in the cylinder which could only be removed by a chisel.

These drawbacks have been almost entirely eliminated, and it is even claimed entirely removed, by carburetting alcohol with fifty per cent. of benzine, which at the same time greatly increases its efficiency. It is only in this form that alcohol is now used. The consumption has also been reduced in certain types of motors until now it is scarcely more than that of gasolene. In some cases even where excise duties have been suppressed on alcohol, there is already a decided advantage in alcohol's economy over gasolene. The new spirit has therefore made considerable progress, but not sufficient to warrant the hope that it can yet enter into successful competition with the petroleum product.

Some more light is to be thrown on this question by the fresh series of tests to be carried out by the French Minister of Agriculture, who is organizing a big run of alcohol vehicles through the beet root districts of the north of France. This will be followed by an international exhibition of alcohol motors and vehicles. In all the tests being held, moreover, special attention is given to alcohol, and the comparison is very interesting as showing that the spirit is getting near to the efficiency of gasolene. If permission can be obtained at all to run off the annual Paris-Bordeaux race all the competitors will have to use alcohol in their motors.

In Germany the utilization of alcohol seems to be making remarkable headway if we are to judge from the number of vehicles running there with this spirit and the alcohol shows that are being held in different parts of that country. One of the biggest of these alcohol motor exhibitions has just been held in Berlin, where the automobile firms using alcohol motors claim to have secured astonishing results in the way of economy, though nothing seems to have been done in getting accurate results by official tests. All the makers, however, confess that they are obliged to start the motors with gasolene, as alcohol will not volatilize properly unless the engine is warm.

It is impossible yet to say whether this stupendous effort to popularize alcohol for automobiles will result in the universal employment of the carburetted spirit, for everything turns upon the question of cost, and while no doubt the price will be reduced, it is clear that it must have a fairly large margin of economy if it is to take the place of gasolene.



The whole question is, indeed, an extremely open one, and unless the import duties on petroleum are heavily increased the manufacturers of gasoline would have very little difficulty in lowering their prices to compete with alcohol, though the government is said to have some remedy up its sleeve against any such contingency, notably in taking over the petroleum refineries and making them governmental establishments.

For the moment the question is interesting because it is giving to the automobile a vast importance as a factor in the industrial prosperity of the country. The motor vehicle is no longer regarded as an instrument of pleasure for the rich, but as a means of contributing enormously to the national resources, and not the least merit of the alcohol propaganda is that it has induced the European farmer to look upon the automobile as a source of profit to himself and has thus created a practical interest which will result in the growing employment of industrial vehicles.

Paris, March 15.

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### Newspaper Heading Illustrated



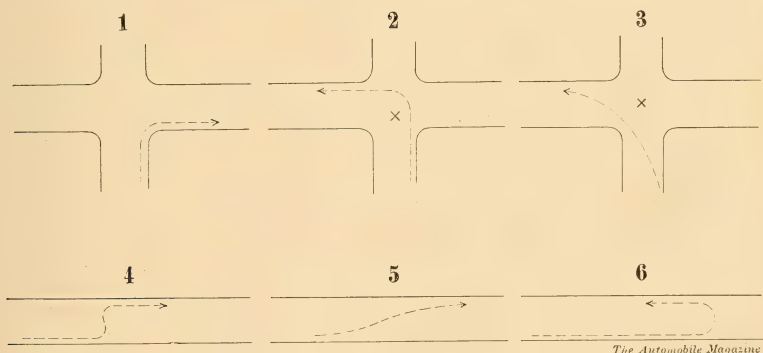
"Notes and Comments"

# Making Street Traffic Safer

By WILLIAM PHELPS ENO

**S**INCE I first began writing these articles in the "Rider and Driver" I have found that every day adds to the necessity of rational management of our street traffic, the knowledge and observance of the rules of the road and their enforcement by the police, who, at the present time, do not understand them themselves or have not been instructed to properly enforce them.

The first important principle of the rules of the road is that vehicles shall keep to the right, and not only do so when passing other vehicles going in the opposite direction, but always to the right and as near the right-hand curbstone as vehicles at a stand-



still or going at a slower rate of speed will permit, thus leaving room in the middle of the street for those going in the same direction at a greater speed to pass to the left.

Second, that a vehicle turning into another street to the right should turn the corner as near the curb as practicable, and keep on to the right in the street into which it turns, as I have shown in Plan I.

Third, in turning into a street to the left, a vehicle should turn around the center of intersection of the two streets, as explained in Plan II. Unfortunately, the usual rule of proceeding is seen in Plan III.

Fourth, that a vehicle crossing from one side of the street to the other should do so when going to stop, headed in the same direction, according to Plan IV, and not as shown in Plan V. When the

vehicle intends to stop or to continue headed in the opposite direction, then Plan VI shows the safe and proper way to act.

By even a casual study of them, it will be seen by the diagrams that the interference with other vehicles by the correct method is for a much shorter space than by the incorrect method usually followed.

It is a question, however, whether an ordinance should not be passed prohibiting vehicles stopping under any circumstances at the left-hand curb. It is probable that such an ordinance is desirable and for the best good.

In slowing up, or stopping, a signal should always be given to those behind by raising the whip or hand. In turning, a signal should be given by raising the whip or hand and twirling it in the direction in which the turn is to be made. These signals are almost always wrongly given, usually through ignorance but often by those who should know better.

The other rules of the road are important and should be strictly enforced also. Attention has been called only to the most important.

The observance of these rules does not mean a hardship to anyone, but, on the contrary, makes it easier for everyone concerned, easier and safer and more expeditious for the driver, the rider, the automobilist and the pedestrian. It is safe to say that nine-tenths of the accidents in our streets come from non-observance of the rules of the road and careless driving.

The cruelty imposed upon horses by disregard of these principles and the consequent hurried and severe reining up to avoid accident is worth the attention of all.

The time has come when it is most important that a change should be made without delay. Every day increases the traffic and the importance of getting from point to point with safety and without delay.

The remedies for most of the street traffic ills are: First, that the police should understand the rules of the road, and

Second, that they should enforce them.

Every time a policeman sees a vehicle out of its proper place or turning in the wrong way he should warn the driver, and, if necessary, stop him and tell him the reason why. This alone would effect a great deal of good. In case of flagrant abuse the driver should be stopped, his name and address taken, and if he is arrested a second time he should be fined a substantial amount.



I suggest further, that the driver of every public or numbered vehicle be required to hold a numbered card issued by the police, certifying that he has applied for it and shown that he thoroughly understands the rules of the road and knows how to drive safely.

That copies of the rules of the road (which should be carefully revised, rearranged and more simply expressed, with a few explanatory diagrams), should be kept to be given away on application at the police station, and at the office of the Society for the Prevention of Cruelty to Animals.

That every livery or public stable should be required to keep posted, where it can be easily seen by the drivers, a copy of the rules of the road, with explanatory diagrams (printed on a larger form). That one of these copies should be fastened up at every public hack stand.

The right of way of vehicles on north and south streets over those on cross streets, and the bringing of the offenders to justice, are matters specially worthy of the attention of the police.

The London police perhaps manage traffic in crowded places better than anyone else, and their methods should be adopted, and, if possible, improved upon. The management of carriages at theaters, the opera and other entertainments should be carefully studied and specially trained, expert and competent police assigned to such duties.

Carriages should never be allowed to discharge or take on passengers on the left hand side, but should always proceed in the same direction as the regular traffic of the street. Careful and intelligent study and management of this subject would do much for the comfort of those who attend entertainments and for all who use the streets.

Stages should be forced to carry conductors. It is too much for one man to drive, make change and look out for passengers. Stages should be obliged to make their stops alongside the right hand sidewalk and not in the middle of the street.

The speed of cars and automobiles should be regulated by law. Automobiles have come to stay, but now is the time to restrict their speed to a safe limit.

The expense entailed in furnishing the cards and posters of the rules of the road and the examination of drivers and training of the police would be but trifling in comparison to the amount saved by the avoidance of accidents to people, horses, carriages and har-

ness, to say nothing of the greater speed and pleasure in getting about the city.

All rubber-tired vehicles should carry bells; the size, kind and manner of adjustment should be defined by law. An ordinance should be passed prohibiting the leaving of horses standing unattended in the street.

It is hoped that something will be done, and it is urged upon all to do their share. The police are responsible for most of the trouble. The magistrates before whom the offenders are brought have sometimes failed in their duty through ignorance and allowed the offenders to go free, not realizing the importance of the subject. Those few of the police who have attempted to do their duty have thus been discouraged.

I am sure that anyone who takes the trouble to investigate will decide that at least 25 per cent. would be added to the efficiency of the trucking and delivery wagon service if the rules of the road were understood by the drivers and properly enforced by the police. If only 5 per cent. were added to the efficiency, the saving would be thousands of dollars a day by an expenditure of practically nil.

The keeping of trucks off at least one avenue, between certain hours, is most desirable, but if they would keep to the right, observe the rules of the road and common decency, much of the objection on the part of light vehicle users to them would be removed.

To accomplish the desired result it is necessary first of all that the public should understand the evil and its causes and demand reform. Second, that the powers that be should have the rules of the road revised; and third, that the police should be directed to enforce them.

The articles on the subject that have so far appeared, though well intended, have been practically useless, because of lack of organized effort; but if the officers of any city government will take up the matter properly the evil can be quickly and easily remedied.

Properly understood and regulated, several times the present traffic in our streets could go on with less delay, more safety and more comfort than there is now with practically no regulation and no management. It is time something should be done.

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### Not So Heartless As Thought To Be

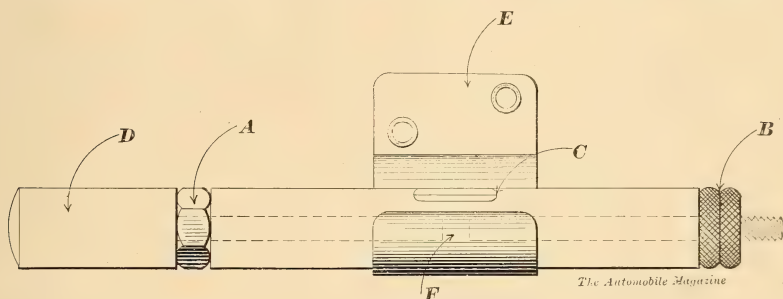
"I think that the very least a scorcher could do when he runs into anyone is to stop and see what damage is done."

"He does, if it's to the automobile."

## Promises to Eliminate Many Troubles

**W**ITH the name of "Ignicator," the little instrument here shown in its actual size is being placed on the English market with great success. Certainly if the newcomer performs only a portion of what its enthusiastic supporters have claimed for it, in a very short time an ignicator will form an essential part of the equipment of every explosive engine.

The quintette of advantages gained by the use of this little instrument are the possibility of definitely localizing without leaving one's seat: (1) exhausted batteries; (2) damage to sparking plug; (3) short circuit or leakage; (4) unsuitable carburation; (5) faulty sparker. Where more than one cylinder is used in addition to the foregoing the instrument shows instantly what each cylinder is



doing. For example, from the driver's seat it can be ascertained if the third cylinder is dead, throwing its work on the remaining ones. By employing the ignicator as a "cut out" it can be made to serve a double purpose; without leaving his seat the driver can test each cylinder of a motor of two or more cylinders separately; and he can economize power by cutting off any cylinder or cylinders that may not be required for working purposes, such as when going down hills or when a less speed is required. This is accomplished by simply turning the vulcanite handle (D) until the points of the rods (represented by the dotted lines) are too far apart for the spark to jump across. A separate indicator is required for each cylinder. The instruments are easily attached to the vehicle as follows: Having screwed the clip or clips on to the dashboard or other convenient part, where it can be easily seen by the driver, the insulated wire usually employed to convey the secondary or high tension current



from the coil to the sparking plug is connected instead from the coil to one terminal (A or B) of the ignicator; then, by means of an extra length of similar insulated wire, the other terminal of the ignicator (B or A) is attached to the sparking plug. Referring to the drawing herewith, D is the vulcanite or insulated handle for regulating the width of the spark gap or electric bridge, and it is by turning this handle sufficiently, so as to widen the gap, that "cutting out" any cylinder can be effected; A and B are the terminals connected, one to the coil, the other to the engine sparking plug; C, the observation slot through which the spark and condition thereof is observed; E, the clip in which the ignicator is held. The dotted lines represent the rod inside the tube from the points of which the spark passes, and F is the gap, or electric bridge across which the spark passes.

To ascertain where a fault, if any, lies, the following conditions have by repeated observations been summarized:

(1) Batteries run down.—The spark at the gap in the ignicator will be intermittent and probably cease altogether until the points are brought a little closer, upon which the spark will commence again. This is due to a "drop" in the E.M.F. (electro-motive force), a sure indication that the batteries are nearly "discharged," and therefore the pressure of the induced current is not sufficient to jump the gap. (2) In the event of the porcelain of a plug cracking, and thereby causing a short circuit in the body of the plug, this can at once be ascertained by "cutting out" the good cylinder or cylinders, and the one that is failing to explode (although indicating a good spark in the ignicator) is the one that is short circuiting. (3) Short circuit of leakage.—In this case there would be no spark shown in the ignicator. (4) Unsuitable carburation is shown by there being no explosion in the cylinder or cylinders although a good spark is shown in the ignicator. (5) Faulty contact in contact breaker or trembler would be indicated by a complete absence of any spark, whether the points are close together or not, or even in contact.

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There are always two kind of customers in a storage place—those who want everything done their own way, and those who don't want to do anything anybody else's way.

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The pains some people take to appear at ease on the seat of an automobile are as nothing compared to those they give other people.

## A Terrible Doom

**T**HERE is a sudden stir and bustle in the court room as the prisoner, the now famous and reckless owner of the deadly "Pink Paralyzer," is brought up to receive his sentence for terrifying the entire Long Island district.

During the few days which have elapsed since the jury rendered their verdict, his whole appearance has changed shockingly for the worse. The mask of indifference which he wore throughout the trial has been dropped. His sallow cheeks have assumed the color of chalk and his bloodshot eyes reflect a look of utter despair. It is evident that he fully realizes his position and is prepared for a heavy sentence.

Several women are among the spectators and they regard him with unmistakable signs of pity. For he is young and rather good-looking.

It is the general opinion of those who have watched the progress of the trial before the Nassau County jury that he will get at least ten years.

Finally the judge begins to speak, and in stern, inflexible tones points out to the trembling culprit the error of his ways, concluding with:

"And now, Samuel Scorchmore, I have carefully considered your case and am of the opinion that the demands of justice and the safety of Long Island can be adequately met only by the imposition of a heavy penalty. It is therefore the sentence of this court that you be imprisoned with hard labor until such time as the technical committee of an automobile club shall have agreed upon which is the best form of vehicle and motive power to use with safety on the public highways.

A murmur of horror from the spectators greets the judge's dreadful words. It is followed by an agonized scream from the unhappy prisoner.

"Not that," he pleads, the tears pouring down his cheeks. "For mercy's sake, not that! Better death itself than imprisonment for life!"

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The pessimist is a person who does not expect to get what he wants in a motor vehicle, but expects to be disappointed in it if he should.



## The Rime of the Ancient 'Mobilist

A DOGGEREL

With apologies to Dr. S. J. Coleridge

BY F. R. HUTTON

Delivered by Prof. Hutton at the Annual Dinner of the Automobile Club of America,  
March 7, 1902.

It was a fur-clad 'mobilist.  
And he stoppeth one of three:  
"By thy kid cap, and goggled eye,  
Now wherefore stopp'st thou me?"

"The Waldorf's doors are opened wide  
I fain would enter in:  
The guests are met, the feast is set,  
May'st hear the merry din!"

The victim guest beat on his breast,  
But he cannot choose but hear,  
And thus spake on that baleful man  
In the guise of an engineer:

The shop was cleared, the curb-stone  
neared,  
Right merrily did we drop  
Below the kirk, below the hill,  
Below the road-house top.

And now the storm-blast came, and he  
Was tyrannous and strong,  
We struck a gang of rough "white wings"  
Who jeered us right along.

And now there came both mist and snow,  
And it was piercing cold,  
And snow hub-high we passed by  
Which Woodberry's gang had rolled.

The snow was here, the snow was there,  
The snow was all around;  
We bumped and growled—it creaked and  
howled  
Like noises in a swound.

Just then loomed up a terrier pup—  
Out through the fog it came;  
We thought it were a vagrant cur,  
And gave it a strong name.

It bit at tires it ne'er had ate,  
And round and round it flew,  
And barking, threw a canine fit—  
Its fate was sure—I knew.

"God save thee!—ancient mobilist.  
From the friends that plague like that!  
Why look'st thou thus?" "With my rear-  
tire  
I rolled that puppy flat!"

They said I had done a grewsome thing  
And it would work me woe;  
And all averred, what had occurred,  
Would queer my luck to show.

A cycling cop was pedaling near;  
I must not leave him so—  
So I bundled him over at the rear,  
In the depths of my tonneau.

Then, sure enough, my charge missed fire  
We stuck—nor spark, nor motion,  
As idle as a painted launch  
Upon a painted ocean.

I swore and worked my starting crank  
Till every pore did drip;  
I tried my plug—my mixer, too—  
That pup HAD queered my trip.

Water, water, all inside,  
Till all my flannels shrink;  
Water, sweating everywhere,  
Nor any drop to drink.

My storage tank in utter drought  
Had dried up at the root;  
It could not flow, no more than if  
It had been choked with soot.

Ah—well-a-day, what jeering looks  
Each countenance did deck:  
Instead of a cup—'twas that BLOOMING PUP  
Had taken me in the neck.



## Canto II

There passed a weary time. Each man  
Was cross, and glared each eye  
A weary time! a weary time!  
And glared each weary eye—  
When looking westward, I beheld  
A something 'gainst the sky.

At first it seemed a little speck,  
And then it seemed at mist;  
It moved, and moved, and took at last  
A certain shape, I wist.

A speck, a mist, a shape, I wist,  
And still it neared and neared;  
As if it dodged the snowy ruts,  
It plunged, and shied, and veered.

The western road was all aflame,  
The day was well-nigh done;  
Almost upon the western verge  
Kested the broad red sun,  
When that strange shape drove suddenly  
Betwixt us and the sun.

The farmer's lad alongside came  
Driving a sorry steed—  
"O tow us home, in Heaven's name,  
I'll pay you what you need!"

Then in a minute, we 'gain stir  
With a short uneasy motion;  
Backwards and forwards, half our length,  
With a short uneasy motion.

Then like a pawing horse let go,  
They made a sudden bound;  
It flung the blood into my head,  
I seemed down in a swoond.

How long in that same fit I lay,  
I have not to declare;  
But ere my living life returned,  
I heard, and in my soul discerned,  
Two voices in theair:

The guest was as he had been stunned,  
And was of sense forlorn;  
A sadder and a wiser man  
He'll rise the morrow morn.

It's he—quoth one—Is this the man,  
Who scorns the useful horse,  
Like him with bow, who laid full low,  
The harmless Albatross?

The other was a softer voice,  
As soft as honey-dew.  
Quoth he: "The man hath penance done,  
And penance more will do."

But soon I heard the snap of bel'ts,  
I saw the shop appear;  
My head was turned perforce away,  
I heard the foreman's jeer.

The foreman and the wiper boy,  
I heard them coming fast;  
Great Cæsar's ghost—It was a joy,  
That terrier could not blast.

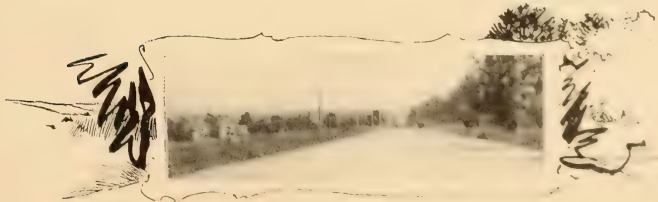
"O fix me fix me, worthy man,  
The foreman crossed his brow;  
Say, quick," quoth he, "I bid thee say  
What manner of man art thou?"

Forthwith this frame of mine was  
wrenched  
With a woful agony,  
Which forced me to begin my tale;  
And then it left me free.

O 'mobile guest! this soul has been  
Alone on a long hard road;  
My battery dead; no gasoline;  
Miles off from my abode.

Farewell, farewell! but this I tell  
To thee, thou dinner guest:—  
He bubbleth well who loveth well,  
Man, horse and dog at least.

He bubbleth best who loveth best  
All things, both great and small;  
For some fine day, you'll go in quest  
Of a farmer's horse and stall!



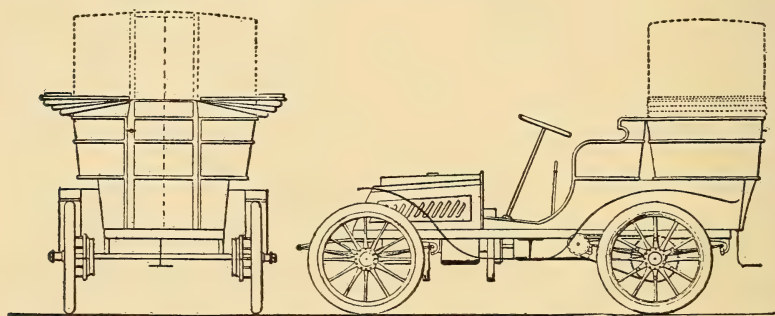
# The Theory of Explosion

(From the French of Dr. Leopold Forment)

**W**HEN the piston has created a vacuum in the cylinder, and taken in an equivalent volume of air, the chemical constituents as represented are:

1. Azote, 78.35 per cent. 2. Oxygen, 20.77. 3. Carbonic acid, from 3 to 4 ten-thousandths. 4. Watery vapor, a small quantity. 5. Light carburetted hydrogen. 6. Ammonia. 7. Nitrous compounds. 8. Ozone. 9. Iodine. 10. Mineral dust. 11. Organic and organized bodies. 12. Many rare metals, recently discovered.

These latter bodies, however, are not constant and play only a secondary role, owing to their small quantity.



Idea for a Folding Tonneau Top

A carburetted hydrogen (petroleum, gasolene,  $C_2 H_4$ ), introduced into the foregoing mass, heated by the compression and electric spark, explodes violently. The H seizes the O of the air with such avidity that the concussion produces an enormous rise of temperature. The water ( $H_2O$ ), which was formed, is immediately volatilized, and by its expansion distributed in many atmospheres.

The C of the carburet, liberated by this reaction, has acted in the same manner with the freed O, and becomes carbonic acid, contributing to the heating and the expansion of the compound.

The two reunited have raised the general temperature to between 1,200 and 2,000 degrees, with a corresponding number of atmospheres.

Had this mass of carburet, however, been burned in the open air, or simply with a lamp wick, there would have been no explosion. The combustion would have taken place slowly and progressively,

in a totally different manner from the one above described. The hydrogen, which has a greater affinity for oxygen than the carbon, has played the part of the lion, and taken unto itself all it wished. To such an extent is this so that the carbon, isolated behind the hydrogen flame, has scarcely been able to attract any oxygen. Converted into fine dust, and maintained in a highly heated condition by the surrounding walls, it has become incandescent and luminous; but not to the extent of producing an explosion.

Therefore, combustion of the hydrogen, too slow and too limited, and an absence of chemical oxydation from the carbon; hence no explosion.

This proves that the carburet must be thoroughly mixed with pure air in order to produce explosion. This is a very difficult thing to accomplish with the ordinary carbureters. In order to fulfill the necessary conditions of motors making from 1,000 to 2,000 revolutions per minute, these parts can never convey exactly the same quantity of liquid to the cylinder. Therefore the explosions occur at varying intervals. Out of a hundred explosions there are not two which have the same dynamic tenor. Hence, there arises the almost insurmountable difficulty of assigning an invariable limitation of time to the explosions.

The union of the air and carbon rarely arrives by the law of chemical equivalents. If there is too much air they approach too near the normal limit, and should there be too much carbon, they recede too far from it.

In the latter case, the hydrogen absorbs all of the oxygen. Then there remains the carbon, which, liberated, and rendered incandescent by the intense heat developed by the preceding reaction, is enabled to combine with the azote and form cyanides. These products, recognizable by their strong offensive odors which they disseminate along the route of a passing motor, are never explosive. They represent a simple loss resulting from the chemical act of explosion.

Among these nauseating odors, *sui generis*, the particular odor of acetylene may be noticed at moments, at least it appears so, and it is not impossible that such may be the case; for, when the hydrogen is about combining with the oxygen, it may easily be the case that a fraction of this latter gas escapes in order to complete the separation from the carbon, and that the formula  $C_2H_4$  passes into the state of  $C_2H_2$ . But this is a matter of little moment.

Finally, after all these changes, there remains the carburet,



which finds no elements of affinity, and evaporates purely and simply. That is to say, it is completely lost for all energizing purposes.

To avoid all these final changes which are useless, or only slightly profitable, large quantities of air must be admitted and the carbon well diluted. Thus watery vapor and carbonic acid are generated, both lending themselves excellently to the proposed end.

From the foregoing it may very properly be concluded that motors propelled by explosion differ but slightly from those doing the same thing by steam, since, like the latter, steam is the active agent; but the carbonic acid is far removed from steam in the act of propulsion.

This explains why cylinders, in spite of no lubrication, or almost none, as frequently happens with all motors, operate without deterioration. Like the steam, so-called, they contain within themselves the corrective. This vapor is a cushion which oils the surfaces, and even isolates them.

Inventors of lubricating apparatus for use on cylinders might, therefore, better cease from their labors, rather than continue what is really a useless search. Writers, too, should abstain from their threadbare assertion that the one thing necessary for perfecting motors is to discover an oil which will not vaporize at 400 degrees. In giving this counsel to inventors—a class already equipped by temperament for seeking the moon—they abuse their vocations as writers.

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### The Drop That Undid Him

"What's the matter with Jumspark? He looks as if he had been in a fight!"

"He was, indulged in a drop too much."

"You don't say! Why, I never knew he drank."

"It wasn't drink. He dropped a remark about a motor belonging to a bigger man which the bigger one didn't like."

## Better Than One In Five

IT has been said by the detractors of the Serpollet flash boiler that it was not a success because it did not permit of any reserve force, and was for that reason likely to come to grief when called upon for a supreme effort, as in the mounting of a steep grade. Perhaps the accompanying illustration may go somewhat toward removing this manifestly erroneous idea. The vehicle, a Gardener-Serpollet, of six horse-power is shown ascending a grade of 22 per cent.



at a speed of twenty miles per hour. For a six horse-power vehicle of any kind weighing 2,000 pounds and carrying four passengers to accomplish any such performance as this speaks well for its construction and its motive power no matter what they are, and certainly does away with all question as to the Serpollet system being one which will or can supply sufficient power for automobile use.

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### Defined Up To Date

"Papa, what's a pessimist?"

"A pessimist is a man who can't enjoy a ride to-day because he is afraid the roads will be muddy to-morrow."

## Assembling an Automobile

By WILLIAM J. GRUBB

**A**S an introductory we will review a little modern history. The automobile began to attract the attention of the public and the manufacturer about the time the bicycle began to lose the same. Of course, automobiles had wheels, therefore many of the bicycle manufacturers concluded that turning out motors on wheels was right in their line, and straight away they started in to build them. The starting was as far as many of them got, and it is not difficult to find the reason for their lack of further progress.

There is quite a considerable difference between building and marketing an article which retails for \$40 and one that commands \$1,000. For the bicycle makers to take hold of a new business like this at a time when their finances were already crippled simply meant for them to go from bad to nothing. I once asked one of these converts from bicycles to automobiles, who had built a steam carriage, what it cost him. He said, "About \$2,000, and I guess our business." I do not wish it to be understood that I believe the bicycle manufacturers are the only ones who have made a failure of the automobile business. I rather think the reverse is the rule, because I know that some of the parties who rushed into this new and rather fascinating business did not even know how to build bicycles, very much less automobiles. After spending several years in experimenting, and thousands of dollars in cash, some of these may by this time be realizing their early dreams, if they have not been wakened up by the sheriff in the meantime.

Some very interesting history could be written about the might-have-beens you are sure to find about every automobile factory. I have seen many of them, in fact, I could add to the collection. It is very interesting to see how differently people feel about these deferred hopes. Some are proud of their failures, and take pleasure in giving you their history, while others are ashamed of them and hide them away. In fact, I have seen some that you could hardly blame anyone for being ashamed of, and some that are actually on the market, which it would have been better if their makers had have hidden them.

After studying the business thoroughly from every reasonable point, I doubt whether there is a chance for the assembler to make



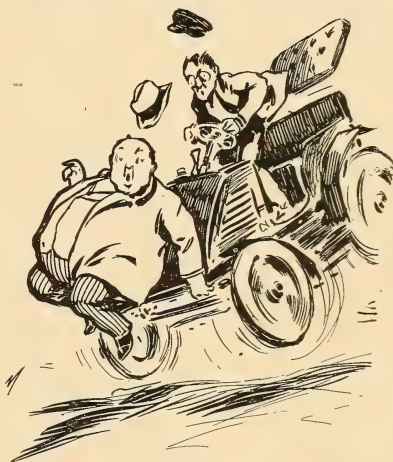
any money out of the automobile. My advice to the person with several thousand dollars, and an inclination to go into the assembling of automobiles, is to keep his thousands and give his inclination to somebody else who has no money to lose, and allow him to start a stock company.

But if you have money to spare, and with it are of a mechanical turn of mind, and would like to get some experience for which you do not object to paying the price, there is a wide field in automobilism which has not been entirely worked out. Many of America's best and brightest ideas have been developed by the small manufacturer, or mechanic, for the very good reason that among these there are more men with brains than with wealth. I would be the last person, therefore, to discourage the very thing that has caused other nations to dub us "Yankees."

My experience has, however, convinced me that if you do attempt to assemble, the most profitable plan is to buy only the very best parts, such as have been, by their designers and builders, intended for the use you intend putting them to. Do not buy a marine engine, put it into a carriage, and then blame the manufacturer if it is not satisfactory. You might just as well try to hatch a chicken from a duck's egg.

In these remarks I will deal only with the explosive motor-driven vehicle. In starting out to assemble such a conveyance the first and most important thing is to select an engine. In doing this, remembering that you are substituting a motor for a horse, and in doing so you are dealing with quite as uncertain a quantity. Consider power, speed and imperfections just as carefully as though you were looking over a horse. After you have made the round of the gas engine people, you will probably consider picking out a horse as the easiest thing in the world. Remember, that it is the

### Extract from an Automobile Advertisement Illustrated



"We Are Making a Big Hit With Our New Model"

business of the engine people to sell to you, but it should be yours to buy only what you want. Do not let any engine builder make you believe that when you have a two horse power engine you have the mechanical equivalent of a double team. Make yourself thoroughly acquainted with the method of testing the brake horse power of engines, and if the manufacturer of the engine you have selected will not send it to you to test, go to his factory and see it tested there. Be sure that the testing outfit and conditions are as near as possible to what will have to be met in the carriage. Accept no such excuses for failure to develop alleged horse power, as that any engine will run better after having been in use for several months. While this may be true to a certain extent, still if the manufacturers' work has been properly done there is nothing in the assertion, while, to offset this, very likely the party testing the engine for you may know better how to handle it than you will even in six months' time.

I have often thought that if some enterprising gas engine maker, who was thoroughly honest in the rating of his engines, was to get up a card with his advertisement on one side, and the simple methods of testing brake horse power, with diagram of how to do so outlined on the other side, he would promptly secure the confidence of every possible purchaser of a motor.

As to what the number of cylinders should be, whether horizontal, vertical or opposed type, I could take up all this entire space in telling you what I have learned about these different types, while there could be volumes written on what I do not know about the very same things. To make it brief as possible I will simply say that whatever type, if it develops the horse power, is best suited to the kind of frame and transmission you favor, should prove satisfactory.

Concerning ignition, I believe that half of the troubles of the gas engine can be traced to this point. Each different method has its champions, likewise its detractors. For a high speed engine I believe that the jump spark is the best, although many are getting good results from slow speed engines using this same method. Jump sparking has the advantage of being easily advanced or retarded, thereby permitting of the gas in the cylinders being ignited at such time as to give the best results in speed and power. If the assembler uses this method and employs a vibrator in connection with it, he must be very careful to have the wires from the

vibrator to the plugs perfectly insulated. A good plan to secure this is to encase them in rubber tubing. If anyone does not think this necessary, conversion can be quickly brought about by taking hold of these wires. This will be the shortest and most convincing argument you ever experienced.

As to batteries, there are some very good dry ones that will give good service, and have a fair efficiency for quite an amount of hard use if one is only careful not to allow them to get short circuited. Dry batteries have the advantage of being light and convenient to store in the carriage. Keep them out of the damp and test occasionally, since one weak cell will spoil the circuit.

The dynamo is being very successfully used by some of the best manufacturers, and when properly installed has the advantage of small expense as compared with its efficiency. A good plan is to buy your engine complete with carburetter, batteries, spark-coil plugs and muffler, unless you have had some previous experience with these different parts.

The transmission and reverse need careful consideration, and I would advise testing up in much the same manner as you would test the engine, but in this case giving recognition to the power lost instead of developed. I have known as much as three horse power to lose itself in trying to work its way through some of these contrivances. To me it seems as though the Panhard system was one of the best we have at the present time. I do not know of anyone selling this particular gear to the trade, although some of the best manufacturers are using it in their vehicles. There are some very good speed gears on the market. Such as are well protected from the dust and mud, and are either run in an oil bath, or have good and sufficient means of oiling.

Do not neglect radiation. Give yourself plenty of surface,

### Illustrated Advertisement



"Pond's Extract is Much Used by  
Automobilists"



and put it where it can relieve itself of the heat radiated. If you do your experimenting in the winter, you are very apt to find you lack surface for running in the hot weather of July and August.

In buying or building your gear, see to it that it is sufficiently strong to bear the weight you intend to carry in and out of the ruts that you will encounter on all sorts of roads. Remember, always, that you are carrying your horse under your carriage, and that you are pushing the conveyance instead of pulling it around the corners, in and out of ruts and ditches.

There will continue to be considerable argument as to whether chain or bevel gears is the better method of transmitting power to the rear wheels. Each has its advantages and disadvantages, but I prefer the chain if properly protected from mud and grit, although I have secured excellent results from employing bevels.

In assembling it is well to first select your engine and transmission, and then adopt such running gear as will accommodate itself best to these parts. If you intend building your running gear yourself, I would advise using ball bearings of liberal size, rather than plain bearings, since ball bearings will more readily adapt themselves to any imperfections in alignment than plain bearings will, while not so quickly making inroads on your power, since you will soon learn that it is only the power which eventually reaches the rear wheels that counts.

After you have your carriage complete, it is very important that you test it out and find just what power you have at the driving point. You can determine this efficiency without taking the vehicle on the roads, and, perhaps, there making a show of it to non-sympathizing onlookers.

Hoping you may be successful in your first attempt at assembling, or, if you are not so, that you will have the courage and patience to persevere, and by doing this win out, I have, as a fellow-assembler, written the foregoing for your aid and comfort.

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### Deadly Rivals

"You're a liar!"

"You're a bigger one!"

The sound evidently came from below stairs. An automobile was kept there and the trouble might have been expected.

The odometer had been quietly taking note of the goings-on. The gas meter only knew from hearsay.

## Stopping an Automobile

**T**HANKS to the very careful public tests of the Automobile Club of Great Britain and Ireland it is now possible to determine just what control of stopping an automobile the driver of it really has. The vehicles were sent over a full mile of level roadway and timed for the full distance and again for the last one-twentieth (88 yards) so that the officials might have the exact speed at which the vehicles were traveling the instant the brakes were applied. As the front wheels crossed the tape at the finish of the mile, brakes were put on, and when the vehicle had finally come to a complete standstill, the distance from the tape to where the front wheels rested was carefully measured.

Using 11 feet 8 inches as a "length" it was shown that on a level, fairly dry road a motor vehicle could be stopped at varying speeds as follows:

From 11 to 14 miles per hour in  $1\frac{4}{5}$  times the car's length.

From 15 to 17 miles per hour in twice the car's length.

From 18 to 20 miles per hour in  $2\frac{3}{4}$  times the car's length.

From 20 to 24 miles per hour in  $3\frac{1}{2}$  times the car's length.

The figures given above are, of course, only averages. As a matter of fact one vehicle traveling at 13 miles per hour was stopped in 4 yards; another traveling at  $18\frac{1}{3}$  miles an hour was stopped in 7 yards, and another when going at 20 miles an hour was stopped in  $12\frac{2}{3}$  yards.

The average weight of the vehicles, without passengers, was 1 ton 4 cwt. From these results it will be seen that automobiles can, on an average, be stopped when traveling at 20 miles an hour in less distance than the ordinary horse-drawn vehicle could be stopped when traveling at only 10 miles per hour.



## The Duty of the Hour

(From the French of Léon Auscher)

**O**UR duty to all, and our most immediate interest, should be to create a reaction against the terror which our powerful machines have inspired in the minds of those who are, as yet, outside the automobile fraternity.

It is useless to attempt to persuade the public that we are justified in traveling so swiftly, because we are sure of our ability to stop suddenly, at will. The public will only be convinced by seeing us proceed quietly and reasonably. And in this it is right.

Put the question to yourself: Are you so absolutely sure of your brakes? And what if they should not act as you expect them? It has already happened more than once.

Then, when the accident occurs, you blame the brake or a broken chain, or any old thing—but yourself; never your imprudence, your carelessness. Yet, if, at the moment of the accident there are witnesses to declare you guilty of excessive speed, will it do any good to deny it? And people will always have the right to say that if you had shown better judgment, by traveling more slowly, the accident would not have occurred, or, at least, would have been less serious.

Now is the time, more than ever, to lessen the general pace, and endeavor to inspire confidence by your manner of traveling, which may be sufficiently rapid, if dignified and calm. Reassure people by your skilful manipulation and caution. In traversing villages, prove to the inhabitants, by stopping or slowing down constantly, that you are not trying to emulate an express train on the highway, but merely a wise tourist desirous of traveling in comfort. Reserve your speeding until you are on long, unfrequented highways. And, even on these roads, when, after a long run without obstacles, you perceive a carriage looming up on the horizon, be prudent, for your own sake as well as theirs. If it happens to be going the same way as yourself, warn it of your approach, in time; pass it gently and noiselessly, for the shying of the horse might result disastrously to you as well as to its owner. If the vehicle is approaching you in an opposite direction, keep



your eye on the horse, and if it pricks up its ears or prances, send your mechanician to hold the bridle while you pass.

Above all, do not unnecessarily go against the wishes of the fuming ruralite. Remember that he, his fathers and his grandfathers have been, for many ages, the undisturbed kings of the highways, while we are the intruders, the newcomers, who prevent him from going and coming to market in half-drowsing, dreaming state as he has heretofore done, depending on his trusty nag to guide him along the well-known route.

You may well say that you have equal rights to his, and that you are taxed as much, or more, than he, therefore the road is as much yours as his. But, in the first place, old customs are not best overthrown by the brutal exercise of a conceded right; and secondly, what would you say if the countryman suddenly took to galloping through the streets at a steeplechase gait, whip in hand, and only avoiding collision and accidents by the most skillful maneuvering instead of slowing his pace? "What a madman!" you would be likely to exclaim. And why should he not say the same of you?

I know many who agree with me in this respect; but by some strange phenomenon, as soon as these good people touch a speed lever, they are not content till they have brought it to the highest notch.

A chauffeur's pride seems to increase proportionately with his speed. When he has guests with him in his vehicle he becomes conscienceless. In order to impress them with his power, he executes such hazardous evolutions as would make him shudder if he were witness of his own feats, and stopped to think of the number of beings for whom he is responsible and the uncertain tenure of these lives while he is holding his way in this perilous fashion.

Yet this same terrible chauffeur has, at some period of his existence, cursed the imprudence of others who proceeded with much less temerity. But that was because he had not yet been inoculated with the same poison. And when, on some fine day, borne on the tide of fashion, he suddenly conceives the idea of overcoming space and time, like the rest of the world, and rushes off to Charron, or some other manufacturer, to purchase a 12 H. P.—Oh! he doesn't intend to "scorch"—certainly not; he is

only going peacefully a-touring. And if he has bought a "12" H.P. rather than a "6," it is not for speed, but only for hill climbing. Also, if he has ordered an aluminum body, it is not to lessen the weight, but rather that it "takes the paint better." And his reason for not wishing a hood is not because he wishes to be exposed to the rain, sun and dust, and most certainly not because the covering detracts from speed! Oh, no! again. It's only because he dislikes to be encumbered with useless paraphernalia.

So, while they are preparing his carriage, he goes about informing himself as to which is the pneumatic tire with least friction and the most advanced system of ignition, and concerning every apparatus for furthering increase of speed! . . . but he has no intention of ever racing.

He scarcely sleeps nights for thinking how he can best augment possibilities for an ultimatum of speed.

And when his bill is presented—what joy—since that signifies the carriage is ready to be delivered. He responds promptly, check in hand. He is paying; has paid; knows how to guide his machine, and is an expert mechanician.

From this moment on he is identical with HER. This peaceful citizen who would never have sat astride a horse without at least fifty lessons—this good provincial and timid land-owner becomes the most intolerable, the most authoritative of mechanical connoisseurs. Eight days ago he didn't know one part from another. Now he contemptuously shrugs his shoulders when someone mentions "feu Lavassor."

I am not describing one individual, but depicting a general monomania, the type specific, which has arisen in an almost inexplicable fashion. I admit it originates in the fever of innovation and enthusiasm. But the whole cause of automobiling suffers thereby, and progress is retarded by the unwise ones, to the undoing of the many who have good judgment.

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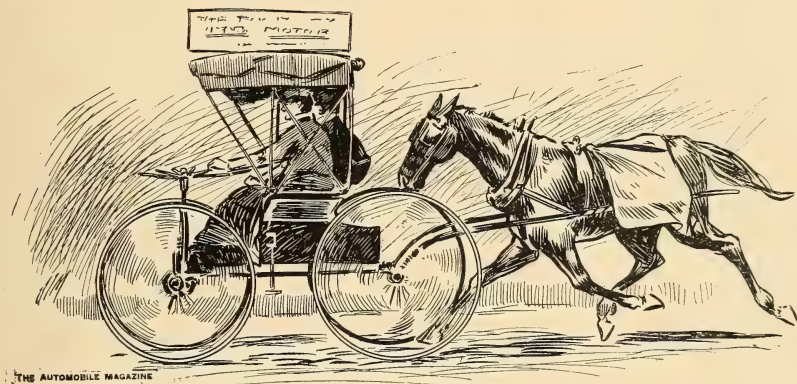
### Calling the Turn

It's in the spring, when Nature is  
A thousand new charms revealing,  
That the young man's rotary mind  
Lightly turns to thoughts of automobiling.

## Defying All Precept

**P**UTTING the cart before the horse is something strongly advised against by ancient saws and wise ones generally.

Yet here the thing is, and despite all advice to the contrary it is a success. Apparently the horse is engaged in pushing the carriage, whereas in reality there is a gasoline motor hidden away under the dilapidated seat of the vehicle that is the power which causes the whole affair to progress. All the horse does is to occupy his foolish, useless position in the rear and submit, as best he may, to the smell of unconsumed gasoline. The steering wheel is nothing but an ex-buggy one with the felloe ripped off. As a



practical joke and as a sensation creator the vehicle is an unqualified success as it proceeds along the streets of Baltimore, where it belongs.

### Why He Wondered

The deaf man stood in the center of a good Long Island road.

"Look out; there's a scorcher coming!" shouted the resident who knew what he was shouting about.

"What?" said the deaf man."

"There's a scorcher coming."

"What?"

The big racing vehicle landed him a hundred feet away in the middle of a turnip patch, and as he picked himself up and dug the soil from out his mouth and eyes, the deaf one said:

"I wonder what that fool kept me there talking about."



## For Steel Instead of Stone

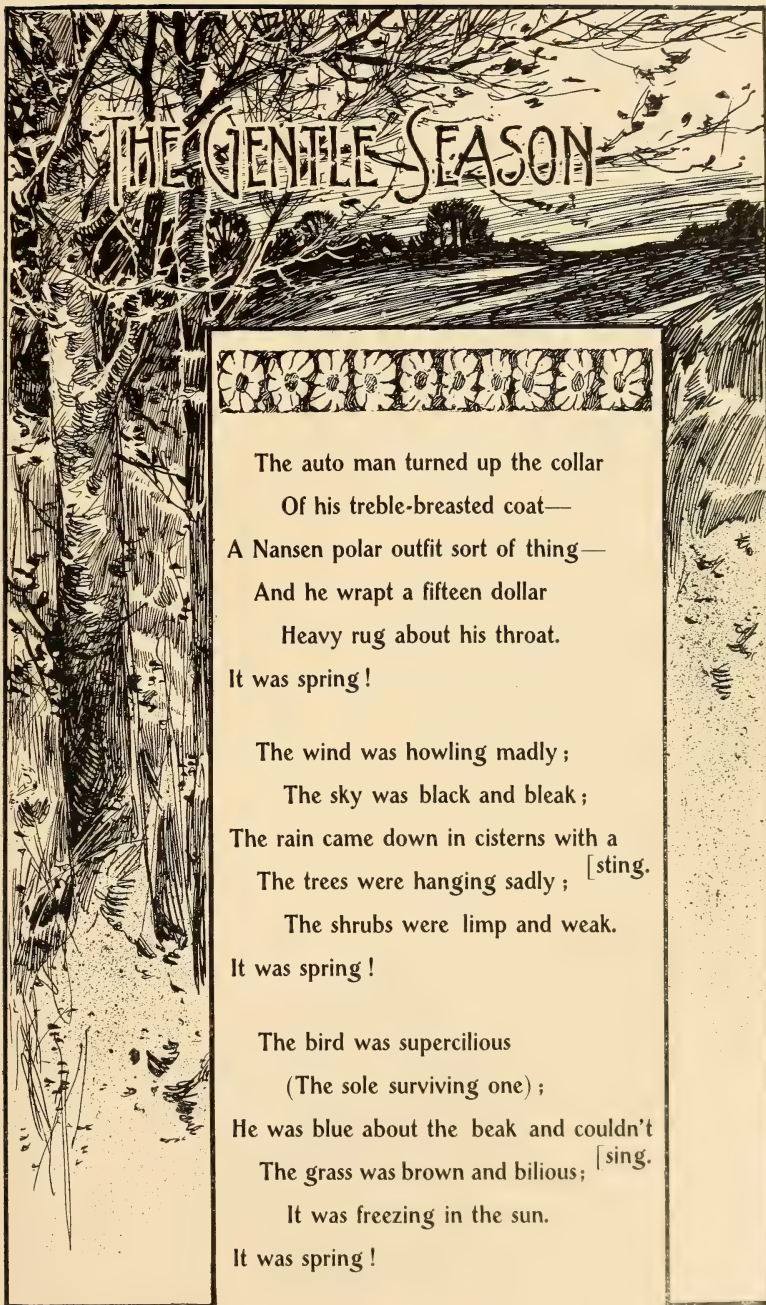
**I**N his address before the Automobile Club of America on the advantages of the steel road system, General Roy Stone said that one drawback to road improvement, as it is generally understood, that is macadamizing, is that it is a crude and unsatisfactory improvement at best; it shows no advance in method in the past 2,000 years; and when compared with the high development of railroads, it decredits the ingenuity of a progressive age, and the talent that has been applied to the subject. From a logical standpoint, General Stone contended, there is no more sense in running a wagon over stones than in doing the same with a locomotive. But railroads are a private concern and have had the advantage of a private interest and private initiative, while roads are a public concern and a public neglect. The same means of "smoothing the way" is available to both, but for roads it has scarcely been considered.

In his advocacy of metal tracks for wagons, a substitute for and improvement on stone roads, General Stone said that the experiments made had all tended to simplify the construction of these roads, and especially their foundations, to the last degree. It is found needless to tie the rails together or to use cross ties or other supporting devices. The rail is a simple channel with flaring sides turned down into a narrow bed of gravel, broken stones or vitrified clay, which is drained at every low point; the rails are strongly spliced by a channel piece, closely fitting underneath the joint; the whole forming practically a continuous plate on a uniform bearing, the space between the rails is covered with a light coat of gravel; on the outside the earth is simply rolled. A single track will serve for most country roads; the turning out is easy, and the earth road never being used, is not cut up and never muddy except when frost is coming out.

Aside from its many other advantages this system of road building offered, General Stone said, it particularly appealed to the owners of motor vehicles, since upon the steel road an automobile could be driven 300 miles with the same amount of power that was required to propel it but 50 miles upon a macadamized road.

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A great many people who will never own a motor vehicle have wasted a lot of time thinking about what might happen if they did.



## THE GENTLE SEASON

The auto man turned up the collar  
Of his treble-breasted coat—  
A Nansen polar outfit sort of thing—  
And he wrapt a fifteen dollar  
Heavy rug about his throat.  
It was spring !

The wind was howling madly ;  
The sky was black and bleak ;  
The rain came down in cisterns with a  
The trees were hanging sadly ; [sing.  
The shrubs were limp and weak.  
It was spring !

The bird was supercilious  
(The sole surviving one) ;  
He was blue about the beak and couldn't  
The grass was brown and bilious ; [sing.  
It was freezing in the sun.  
It was spring !

## An Important Discovery

“SOME time ago,” says M. Paul Meyan in *La France Automobile*, “I announced, in language sufficiently cautious that

I might not be accused of divulging professional secrets, yet at the same time plain enough to be understood, that the means of eliminating the burned gases of a petroleum motor (while they are enclosed) had been discovered. In other words, a way had been found for the motor, without recourse outside, to provide itself with the air necessary for the continuation of its revolutions.

“The discoverer is Mr. George F. Jaubert, doctor of sciences, and ex-professor of preparatory course for the Polytechnic school, and it all came about through his study of the act of respiration for the purpose of finding some way to facilitate the task of sub-marine divers, by furnishing them with artificial air in place of that usually conveyed to them by a pump.

“To produce this artificial air, Dr. Jaubert originated a chemical body, which is scientifically entitled ‘oxylith,’ or, commonly speaking, ‘oxygen stone.’ In form the new product resembles the calcium carbide which is used for making acetylene gas, only it has the advantage of having no overproduction. When water is poured on a bit of oxylith, pure oxygen is immediately generated. It is easy to be seen, therefore, that by combining this operation with other chemical reactions, the problem of producing artificial air is at once solved.

“In the course of his laboratory experiments, made in 1898, it was proved by Dr. Jaubert that a human being could breathe the same air which had passed through the lungs, and had consequently become vitiated, for many hours in succession without inconvenience. For, and this is a curious phenomenon, this oxylith which furnishes the necessary oxygen to the lungs, mathematically eliminates in return, the carbonic acid thrown off in breathing.

“From the demands of the man to those of the motor was but a step, in application. Substitute the cylinder for the lungs, and valves that correspond to the respiratory tubes, and you have practically the same material to work with or on. This is just what Dr. Jaubert has done, with the result that the consumption of fuel is reduced about 30 per cent., that is to say, from 650 liters per horse power, under the old system, to 420 for the same time under Dr. Jaubert’s methods. The consequence is that the unit measure is reduced about one-third,



a yield equal to, or even greater than that claimed for the Diesel cycle.

"Thanks to the presence of pure oxygen, by which economy of consumption is attained and power added. We may now hope to obtain better results from motors without having to enlarge their cylinders. In fact, if the experiments the Doctor has made are borne out in service tests, it is safe to predict that oxyolith will soon become one of the indispensable co-efficients for a properly working motor, which will use it as a stimulus for steep grades and poor roads."

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### For Prince Henry's Brother

**T**HE Kaiser's new motor-carriage is a splendid four-cylindere sixteen horse-power Mercedes carriage geared to four speeds, ranging from three to forty miles an hour, one lever altering the pace and reversing the direction of the carriage.

It is fitted with two acetylene lamps, and has three powerful brakes—two foot and one hand—and can be brought to a stand-still while descending the steepest hills.

There is a central pumping arrangement, which lubricates the entire vehicle. A plate-glass front protects the passengers from the wind. The carriage holds four persons, and is finished in white enamel, with narrow gold stripes.

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In traveling along the Highway of Success, it is an excellent plan to keep to the right.

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Some men could learn all about a motor if they did not think they already knew it.



## The Lament of Pegasus

In vain from the barn sounds my piteous neighing,  
In vain do I stamp with my fire-shod hoofs,  
On the sides of my stall are my wings sadly fraying,  
Oh! I long to be off over hilltops and roofs.

I had hoped that E. Markham might do his spring plowing,  
While I plodded patiently, row after row,  
In harness ahead of him, thereby allowing  
A rest to the overworked man with the hoe.

But Markham's forgotten, alas! all about me,  
He's become a commercial, acquisitive bard,  
And he reels off his sonnets and ballads without me,  
And closes them out at five dollars a yard.

I believed that Al Austin could never refuse me  
A chance to tell Krüger Britannia must rule.  
But Austin, it seems, is unable to use me,  
And the job is let out to the government mule.

And then there was Kipling, who often would mount me,  
And ride over ships, love, and armies, rough shod,  
So boldly that men soon began to account me  
The spirit incarnate of some Hindoo god.

But by and by Kipling began to get tired,  
And now I shall have no more gallops with him;  
He's got past the age when a man is inspired,  
And is giving his time to a heathen called Kim.

All chance to get out for a run is denied me;  
Just think how a haltered-up Pegasus feels.  
Though other fair poets there are who could ride me,  
They'd rather take chances with automobiles.

J. J. MONTAGUE.

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### An Antiquated Simile

"They hissed a lecturer at the automobile club the other night."

"Was he prosy?"

"No; but he actually forgot himself so far as to say that civilization was making strides."

## We Are Willing to Concede It

A Boston girl who has been trying to find out why her automobile often runs into objects she tries to avoid thinks she has solved the problem at last. She says: "It is hypnotic influence



Vice-President and General Manager E. B. Gallaher, Fournier-Searchmont Company, in his latest creation, a 12 horse power tonneau.

of concentrated attention, rendering the movements incoordinate, so that the driver becomes the victim of perverted reflexes of purposeless effort and the abject subject of an optical delusion." And perhaps she is right.



## Some Sparking Troubles I've Had

By REGINALD WALES

**W**HILE negotiating an exceptionally rough stretch of road, I was continually annoyed and subjected to much bodily discomfiture because the vehicle no longer proceeded steadily but developed a peculiar jerky motion as though the motor were missing explosions more frequently than was conducive to either its comfort or mine. This condition was but new, for although the road over which I was traveling was extremely uneven owing to recent rains, yet up to this the vehicle had proceeded over it all with comparative ease. The last mile or so, however, saw the very decided change to which I have alluded. Things went from bad to worse until the motion became absolutely unbearable, and something had to be done toward correcting it. I could find nothing at all the matter except a loose binding-post and this I tightened with much care. There was nothing more possible to do, so I started my engine, pulled in the clutch and moved off—leaving behind me all trouble, the motor running as smoothly as could be imagined.

Being overcome with a desire to take only a short run without any unnecessary bother, I disregarded the warning of my batteries that they were not in condition for further service. All went well for perhaps eight or ten miles when, as I rather expected, upon recalling the remembrance of the series life to be almost spent, irregular explosions began, growing constantly worse for the next mile or two, until I found myself nicely sidetracked beneath a shady tree and meditating upon the evils attending recklessness and the dissatisfaction skulking always at the heels of neglect. My battery gauge indisputably showed the series to be now almost exhausted; there was still a little generation of current going on but this was quite insufficient to supply ignition requirements. This instrument told me the trouble was right here, that I need look no further, and I didn't, unquestionably abiding by the advice which I knew to be true. My penance was to be ignominiously hauled into the nearest town by a farm horse whose battery and horse-power were all that the task demanded of him.

It is obvious that the sparking points influence the motor, as is illustrated by the following: A fellow townsman had purchased

a vehicle some eight months ago and in the interim had given it almost constant usage. The sparking points during all this time were not removed for examination or cleaning purposes. On his way home one day his attention was directed to the irregularity of the motors and, upon searching for external causes, found no apparent reason for the trouble. He was, therefore, forced to struggle along as best he could which he did for another five miles, then the matter was taken entirely out of his hands by the machine suddenly and absolutely refusing to proceed. There was no other recourse left him, since he was seemingly powerless—although he afterward learned to the contrary, but to enlist the aid of several convenient mules and tow his own mulish vehicle home. This he did with as much grace and dignity as could be expected. An expert on gasoline engines was summoned who, after inquiring into the nature of the case, removed the points and found them thickly coated with a blackish incrustation. (I would venture the opinion that this substance was probably produced by the action of the explosion and it formed an effectual insulation between the two points, thus preventing their developing a flash.) This accumulation was removed by the aid of a file, the points reinstalled and the motor again placed in a satisfactory running condition. The owner of this carriage knew nothing of the points other than that they were there; neither had he any idea as to the liability of their becoming incrustated. Another example of being introduced to an automobile drawback for which through culpable ignorance you are not acquainted.

Going along just as nice as could be one day I had my progress stayed by something I could not account for. Again the battery gauge was pressed into service (the reader will soon begin to realize the value of this little instrument) and individual tests made of each of the cells composing the series. One of these proved to be worthless through depreciation. It was a matter of but a few moments to bridge over this and get into motion again.

In this, the last spark of my present batch of battery troubles, my trip was brought to a decisive termination, as in the previous cases I have cited, by the irregularity of the motor, which did not seem to develop its usual speed or strength. The failure of latter was particularly noticeable, naturally, when it came to climbing grades. In fact it was only possible to detect some defect when

taking inclines requiring every particle of power that could be crowded on, or by strict observance to its speeding qualities on the level. Strange to say, I was able to start the motor again without doing much of anything, for at that time I could see little or nothing to do. I continued on my way homeward, but before I had safely reached there the engine was forgetting to take ignitions, spluttering and fuming and otherwise acting very badly. The next day I set about investigating the cause of all this and found the wires and binding posts at the sparking plug were covered with a surprisingly thick coating of oil and dust. This acted as a partial non-conductor, influencing in a measure, the ignition. A leaking lubricating cup was responsible for the whole trouble.

The manufacturer who never changes his mind regarding the vehicle he builds is the one who has so little mind that he can't run any risks with it.

### Evasion



“Ain't I just a little bow legged?”

“Bow legged? The idea! Why, it was only yesterday, sir, I was telling the head cutter that your lower limbs, sir, were absolutely without a parallel; and he agreed with me, too.”

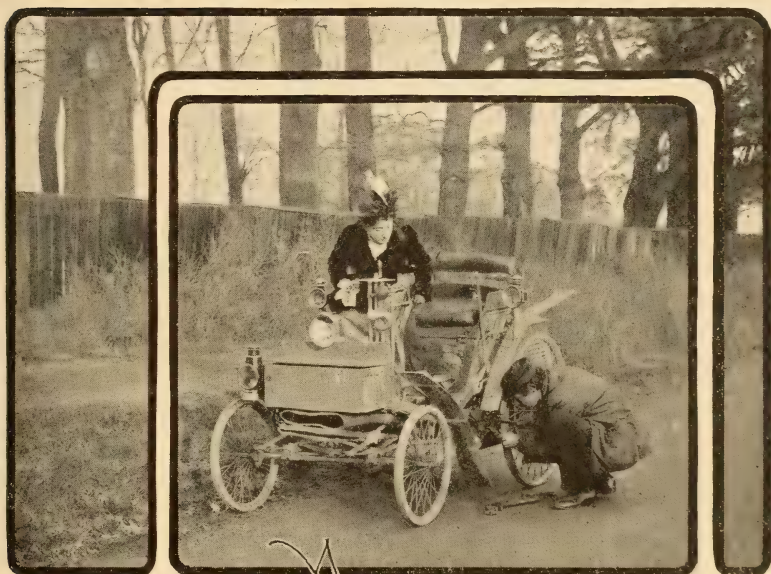


## When Troubles Fly

Would you forget that life means care,  
That weary time brings silver hair,  
That every one has grief to bear?

Then grasp the wheel.

When 'neath the morning's glowing sky,  
Before the sun has mounted high,  
You, like the swallows, dart and fly,  
How glad you feel!



*Accidents will happen*

Your friends' short-comings, leniently  
You'll view, and all their goodness see,  
You'll half forgive your enemy  
When you hold the wheel.

### During the Controversy

"I should think you'd have some horse sense."

"What do you mean by horse sense?"

"Sense enough to use an automobile instead of a horse!"

## Automobile Club of America's Banquet

THE theme of "Better Roads" pervaded all the speeches at the third annual dinner of the Automobile Club of America, which was held at the Waldorf-Astoria on March 7. A better subject for post-prandial oratory or a better handling of it, no one could have asked for.

At the guest table with President Shattuck sat Signor G. Marconi, President Jacob A. Cantor of the Borough of Manhattan, Prof. Elihu Thompson, M. Ernest Cuenod de Martigner, Vice-President of the Automobile Club de Suisse; Col. John Jacob Astor, Gen. George Moore Smith, J. P. Allds, Republican leader of the State Legislature; Edward A. Bond, Engineer and Surveyor of the State of New York; Col. W. H. Moore, President of the National Good Roads Association; Martin Dodge, Director of the Public Road Inquiry Federal Bureau; Prof. F. R. Hutton, of Columbia University, Secretary of the Society of American Engineers; John P. Haines, President of the Society for the Prevention of Cruelty to Animals, and W. Pierrepont White, of Utica, Chairman of the Standing Committee in the Interest of Road Improvement in New York State.

In his introduction of the speakers President Shattuck was at his best, and in his opening remarks, when he took occasion to put the Automobile Club of America, upon record in this fashion, he was greeted with a round of applause: "We are ashamed that it has been necessary for the Legislature of this State to pass stringent laws to prevent the abuse of the highways by the owners of automobiles. This club believes that all roads belong to citizens in common, and that the owner of an automobile has no more right upon them than anyone else, and indeed that the nurse pushing a baby carriage has far more right than he. We do not defend for a moment the driver of an automobile who drives his machine furiously, taking the middle of the road and blowing his horn, as an intimation to the rest of the world that it get into the ditch or be killed if it stay in the road. There are a few, a very few, such people, and they should be driven from the highways; but the club has not altogether agreed with some gentlemen from Nassau County in this State, who desire to make it a crime, punishable by a long term in prison, if a low rate of speed is exceeded by the owner of an automobile. Fortunately we believe we have persuaded the Legislature at Albany to enact a

reasonable law which will prevent excessive speed and the inconsiderate use of the highways."

President of the Borough Cantor made an address in a semi-humorous vein, in which he said that he had already told Mr. Allds, the Republican leader in the Legislature, that unless the State got \$1,500,000 for good roads this year, Republican victory would be far away in the fall. "In the Borough of Manhattan," he said, "I want good roads and good signs. (Applause.) It's a combination that can't be beaten unless the Controller beats it. (Laughter.) I want to convince him that Manhattan is not the outskirts of Brooklyn, and that we don't want at our street corners signs like those which at a country road crossings tell those passing to look out for the locomotive."

The Chairman then introduced Signor Marconi, who was asked to say a few words extemporaneously. The inventor explained that he did not know that he was to be called upon for a speech and acknowledged that he was one of the poorest of after-dinner speakers.

"I own two automobiles," he said, "a motor car and a motor cycle. I bought them because I thought I might apply wireless telegraphy. On my motor car I have a wireless telegraphing mechanism, and already have been able to carry on communication with my base at a distance of thirty miles. I think wireless telegraphy would be very useful on an automobile in case of a breakdown, when you might be able to telegraph to your wives that you would be late for dinner. (Laughter.)

"I had a breakdown, and it was on the occasion of my being chased by the English policemen. In that case I was able to communicate with my friends and arrange with them to bail me out when I was captured. (Laughter.) But, of course, the wireless telegraph as applied to automobiles, is intended for military service, and we hope yet to be able to keep up communication for distances much greater than thirty miles."

The inventor was followed by M. Martinger, of the Automobile Club of Switzerland; W. Pierrepont White spoke on "Good Roads and the Farmer;" Prof. Thompson on "The Mechanical Development of the Automobile;" Col. Moore on "Roads, Organization, and Results;" Prof. Hutton discussed "The Future of the Automobile," while Mr. Dodge spoke on "The Federal Government and Good Roads."



# Why My Bill Was Introduced

SENATOR WILLIAM W. COCKS



It must be admitted that the subject of regulating the speed of automobiles has claimed the attention of a large number of the people of this State during the past few months. It was with the hope of correcting the evil of reckless driving on our highways,

that I introduced my bill regulating the speed to fifteen miles an hour in the country, and eight miles in cities and villages. Let me say on the start, that we who are asking for this legislation recognize the fact that the automobile is here to stay, and is a vehicle that will be of immense value to the people, and we will endeavor to adjust ourselves to the circumstances attending the use of them on our highways as soon as possible, but we do most earnestly protest against the excessive speed of many of these vehicles.

The majority of the drivers of automobiles are careful and courteous to those whose horses may be frightened by their machines, and take the precaution to slacken their speed; they also take the same precaution at dangerous points in our highways. The object of my bill, primarily, is to restrain the minority of these drivers, who are not prone to regard the interest and welfare of others on the highways.

This matter is brought more forcibly to the attention of the people of my district than in any other district in the State, owing to the fact that we have a great many miles of macadamized roads, upon which there is very little grade, which make ideal places for the speeding of automobiles.

The Automobile Club of America, has stated by its president, that its members were opposed to the reckless driving of automobiles, yet I believe it was largely due to their influence that my bill has been so amended as to provide no adequate protection to the small villages, as under the present bill a speed of twenty miles an hour is allowed outside of cities and incorporated villages. This point

to me was a very important one, but I was unable to convince a majority of the Senate that I was correct.

The effect of the use of these high-powered machines upon our highways has been almost the total exclusion therefrom of vehicles driven by women, as well as of many timid and elderly people, who are even now afraid to venture upon the roads, even though a man be driving. This to many people may seem a very small matter, but persons who are familiar with the conditions prevailing in a country district know that it is a very great privation for those who are unable to keep a coachman to be prevented from driving themselves as has been their custom in the past. Some of our people go so far as to regret the fact that we have such good roads, because of the numerous automobiles that frequent our vicinity.

Just how successful we may be in enforcing the provisions of this bill if it should become a law remains to be seen, but I firmly believe that something must be done to correct this evil. It must be borne in mind that the people using our highways have not yet become accustomed to the passage thereon of a vehicle going at the rate of thirty or forty miles an hour, which is a daily occurrence on the highways of Nassau County, and as yet they are unable to properly appreciate the rapidity with which these vehicles are traveling. They are accustomed to judging the speed of an express train, but when we have a vehicle on an ordinary highway, running at that rate of speed it is an innovation, and in the estimation of many of our residents a menace to the safety of the people traveling on our roads.

The number of accidents caused by the reckless driving of automobiles would probably fill the entire space of this issue of your magazine, and it would not be worth while here to recite any of them, as they are a daily occurrence and are familiar to your readers. I could relate happenings in my immediate neighborhood where the drivers of these machines have been audacious to an extreme, and in many instances exceedingly cowardly, for after causing the wreck they have left for parts unknown as soon as possible.

Some of the papers have assumed that this movement for legislation to restrict the speed of automobiles has been asked for by farmers alone, and that they were prompted by jealousy, etc. This is far from being the fact, as I have had the hearty support of many wealthy summer residents of my district, as well as a large number of business men living in villages, who are quite as much interested in this matter as any of the farmers.

## American Motor League

**B**ORN of the enthusiasm begotten of America's first taste of motor vehicle racing, the first national organization of automobilists in this country was, on October 29, 1895, christened the American Motor League. Since then the progress of the organization has been slow, but sure, until recently when the need of an association of and for the individual owners of automobiles became so pressing as to send the League's membership forward with a rush.

When, on March 6, President Duryea called the meeting to order in the rooms of the Chicago Automobile Club, half a hundred members were present, and their enthusiasm plainly betokened the new life in the organization and foreshadowed a much more strenuous life for it henceforth.

To meet the widened scope and needs of the present, the constitution and by-laws of the League were taken up, section by section, and such changes made therein as were necessary. When the meeting had completed its labors, the results were a practically new constitution and a thoroughly up-to-date set of by-laws to accompany it.



E. F. Brown, President



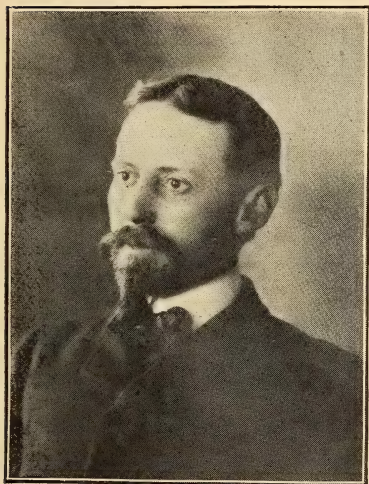
C. E. Duryea, First Vice-President

That the officers who were to carry on the good work should be men of experience and energy, was recognized as being of the utmost importance, so from the list of eligibles proposed, a most careful selection



was made with the result that the final balloting showed the following as elected:

President, Edwin F. Brown, Chicago, Ill.; first vice-president, Charles E. Duryea, Reading, Pa.; second vice-president, W. F. Murray, Detroit; third vice-president, S. W. Merrihew, New York; treasurer, Frederick B. Hills, Boston, and secretary, F. A. Egan, New York.



W. G. Murray, Second Vice-President

olene acetylene gas becomes as heavily carburetted as does ordinary atmosphere, resulting in a superiority as a heat giver over ordinary acetylene gas of about 6 to 4.

Should the newly enriched acetylene gas eventually turn out to be practical for explosive engine use it would result in the construction of motors of great power per unit of weight. Naturally this cannot be accomplished without some thought, since acetylene gas alone has not yielded to the inventors entirely in this direction and when enriched with gasolene vapor the two may show a decided inclination to separate when cooled. While this may add to the difficulty of employing the new power producer it is not a problem incapable of solution.

### Coming of the Acetylene Motor

**I**N a recent paper read before the German Acetylene Verein, at Eisenach, Germany, Dr. N. Caro, of Berlin, made public some entirely new discoveries regarding the use of acetylene. When passed through gas-

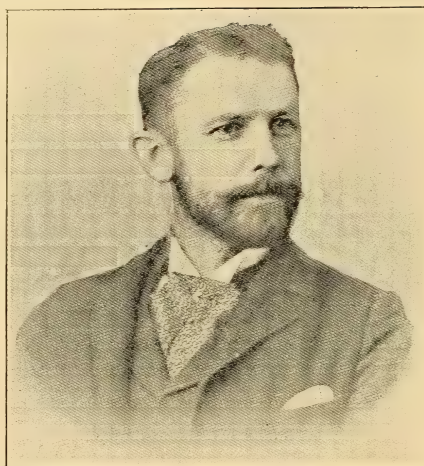


F. B. Hills, Treasurer

## American Automobile Association

**O**N Monday, March 2, in the temporary club headquarters of the Chicago Automobile Club, there assembled representatives of the leading automobile clubs of this country for the purpose of organizing a federation which, according to its constitution, has for its objects

"The promotion of a national organization of clubs composed in whole persons own-  
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for personal  
To co-operate  
rational legis-  
formation of  
and regula-  
ing the use of  
in city and  
to protect the  
owners or  
forms of self-  
pleasure vehi-  
and wherever  
and privileges  
The encour-



W. E. Scarritt, President

development in this country of the automobile. To promote and encourage in all ways the construction and maintenance of good roads and improvement of existing highways and generally to maintain a national organization devoted to automobilism."

The gentlemen who so ably succeeded in their efforts to found the new organization and the clubs they represented were these:

New Jersey Automobile Club, of Newark: W. J. Stewart and W. F. Harris.

Long Island Automobile Club, of Brooklyn: F. G. Webb and Edwin Melvin.

Chicago Automobile Club: F. C. Donald and Edward F. Brown and F. X. Mudd, alternate.

Automobile Club of America, of New York; A. C. Bostwick and W. E. Scarritt.

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Automobile Club of Philadelphia: Frank C. Lewin.

Grand Rapids Automobile Club: John C. Byrne and Charles B. Judd and Walter Austin, alternate.



F. C. Donald, First Vice-President

Automobile Club of Rhode Island, of Providence: Commodore W. F. Titcomb and H. H. Rice.

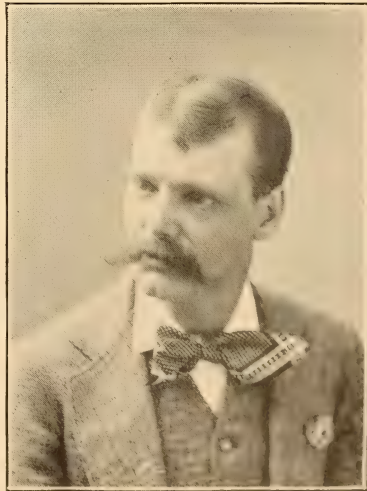
Automobile Club of Utica: Frederick G. Mott.

President Donald of the home club called the meeting to order, and when it had responded was duly elected chairman, with Walter L. Githens, of the Chicago Club, acting as secretary.

The first question upon which the delegates differed was the important one of franchise rights. Philadelphia moved that

each active and each associate member of a club have a vote, while the Long Island Club, through Mr. Webb, fought for the restriction of the voting privilege to vehicle owners only, and temporarily this idea was upheld by the meeting, but in the end Philadelphia's proposition prevailed, the right of voting being given to owners and non-owners of vehicles, to active, associate and honorary club members alike.

This franchise matter once disposed of it was smooth sailing, until the question of individual membership was reached; then once more discussion was animated and opinions differed. As before, Mr. Webb was in opposition, and once more he was defeated. Evidently there was considerable strength behind the



W. W. Grant, Second Vice President



opinion of Mr. Webb that the man who did not, maybe could not, belong to automobile club, for example, where there was no club for



H. G. Morris, Third Vice-President

him to join, should not, therefore, be left alone to fight the battle of the automobile against prejudice and oppression. Eventually the delegates, however, decided that the best interests of all concerned demanded that the new organization be a league of clubs, rather than one composed of both clubs and individuals, and so it finally became.

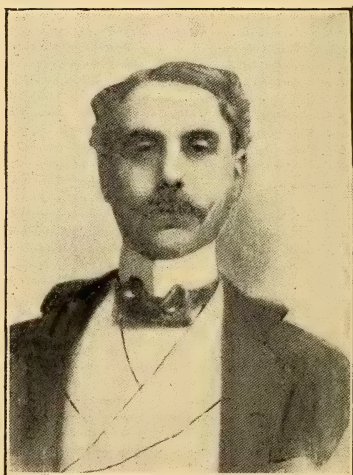
After the following committees had been announced, the meeting adjourned until the next day :

Plan and Scope.—Mr. Bostwick, of New York, chairman; Mr. Stewart, of New Jersey;

Mr. Mott, of Utica; Mr. Titcomb, of Rhode Island; and Mr. Mudd, of Chicago.

Constitution and By-Laws.—Mr. Webb, of Long Island, chairman; Mr. Scarritt, of New York; Mr. Austin, of Grand Rapids; Mr. Brown, of Chicago; and Mr. Lewin, of Philadelphia.

Upon reassembling next day the committees were not slow in showing that they had done their work in a most thorough fashion. The outcome of this thoroughness was that the details of organization were rapidly passed upon. The corner-stone of the American Automobile Association was declared to be the automobile clubs of America. To become a member of the former the individual



Jefferson Seligman, Treasurer

must first become a member of some club which was itself a member. Each club will pay \$10 as an initiation fee to the A. A. A., and upon election to membership will annually pay to the A. A. A. \$3 for each active, associate and life member upon its membership roll, which payment will result in each of the three above-named classes of members being entitled to an equal franchise privilege in the A. A. A.

Annual meetings are to take place alternately in the East and in the West. The affairs of the organization are virtually centered in its Board of Directors, which consists of the president, first vice-president and treasurer, ex-officio, plus seven members at large. This board will meet monthly. Much to the surprise of those not in the confidence of the organizers, no allusion of any kind was made as to what stand the A. A. A. will take regarding racing and the control thereof.

When the Nominating Committee made its report, the ticket submitted was elected without a dissenting voice. The gentlemen who will control and guide the American Automobile Association for the first year of its existence in consequence are:

President, Winthrop E. Scarritt, Automobile Club of America; first vice-president, F. C. Donald, Chicago Automobile Club; second vice-president, W. W. Grant, Long Island Automobile Club; third vice-president, H. G. Morris, Automobile Club of Philadelphia; treasurer, Jefferson Seligman, Automobile Club of America; secretary, S. M. Butler, secretary of the Automobile Club of America. Board of directors (in addition to the president, first vice-president, ex-officio)—Frank G. Webb and A. R. Pardington, Long Island Automobile Club; A. R. Shattuck, Automobile Club of America; W. J. Stewart, New Jersey Automobile Club; Dr. Chase, Automobile Club of Rhode Island.

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### Determination

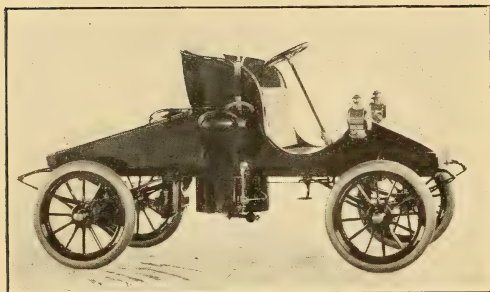
"It's the only toime on earth," said Mr. Dennis Dobbins, who was trying to impart locomotion to a balky horse, "that I wisht for an alty mobeel."

"Would yez sell yer horse?"

"Certainly not. I'd never give in like that. But I'd hitch this animal up in front of that machine, an' then I'd see whether he'd go or not."

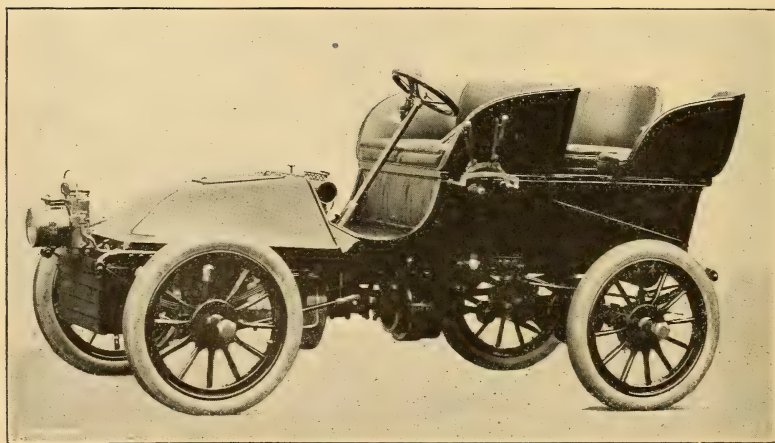
## Two Taking Touring Cars

**P**ERHAPS no more sensational innovation in motor vehicle designing has taken place this year than in the radical departure from accepted lines, made by the International Motor Car Co.'s new steam vehicle here shown. Recognizing the popularity of the French type, the International Company abandoned



the runabout shape entirely, and in its place have produced a steam carriage which is as pleasing as it is novel in appearance. Seven feet of wheel base insures comfort, while a water and gasolene supply sufficient for one hundred miles of road work, makes of the new touring car a very attractive proposition. Not less at-

tractive is the International's new gasolene touring car, weighing 2,000 pounds, and driven by a 3 cylinder vertical explosive motor, equipped with 3 forward speeds and a reverse. Transmission is by a planetary system with a flexible shaft driving the rear axle



through encased bevel gears. So popular has this vehicle, with its 200 miles of touring radius, proven that every one of them now going through the factory has already been sold, and orders are already being booked for the second and larger batch, which will be at once got under way.



## The Lesson of the Show

By S. WALLIS MERRIHEW

**P**ERHAPS the best judgment to pronounce on the automobile show at Chicago which came to an end on March 8 is to say that it fittingly typified the art and industry at this time. Caution might suggest the addition of the words "in the West," but this is too great a qualification. The error, if error there be, is less in the first statement.

It would not be easy to imagine a greater change than a year made in the two Chicago shows. The first was disappointingly inadequate, falling short of utter failure by a very narrow margin. It is possible that even there the parallel holds, and that western automobilism of that day was also very callow and immature.

At any rate, a great, a wonderful, improvement took place in the year which elapsed. The strides that the industry made in that period were matched by a similar advance in its western show function. Whatever doubt may have existed then regarding the permanence and extent of the motor vehicle movement has by this time vanished. There is nothing illusory, nothing evanescent, in an industry which could make such a showing as met the eye at Chicago.

The exhibits were fittingly housed. The Coliseum, which was built to contain Libby Prison, the celebrated edifice having been transported, brick by brick, from the banks of the James to the shores of Lake Michigan, is spacious and of dignified architectural design. Exteriorly it falls much behind Madison Square Garden. But its interior does not suffer by comparison. Indeed, there is considerable similarity in the two structures. The chief difference is found in the absence of the series of galleries which mark the New York building, the Coliseum having but one adjunct of the sort.

Spacious as was the building, it was fairly well filled. A few vacant spaces were to be seen, but they did not number a half dozen all told, and, as if to make up for this, a few of the exhibitors were somewhat cramped for room.

Despite the act that the absentees included a number of very well known makers, principally in the East, and that no foreign vehicles were shown, the exhibition was a representative one.

Every type of vehicle now on the American market was there. Every maker who felt that he had something that appealed with force to the public of the great Middle West made his bid for recognition and favor. Consequently there were new vehicles in plenty and some modifications of old ones. Only a little over three months had elapsed since the holding of the New York show, but in that time much work had been done and many changes made.

The improvement of the motor vehicle, its advance toward approximate perfection, is the task which makers have set themselves to perform, and users are almost equally interested in seeing it realized. Consequently, the first question to be asked is, has material progress in this direction been made?

As far as the show under consideration is concerned, no better reply can be made than is contained in the comments of two visitors to Chicago, one a tradesman, the other an automobilist entirely free from trade alliances. Starting from the same point, and bringing to their task equally keen observation, they arrived at conclusions diametrically opposed.

"The show is more interesting than that at New York," said the amateur. "There is more that is really new, more that is an advancement, than there was any reason to expect. I turn from an examination of the most novel vehicles firm in the belief that we are on the right track."

"It is useless to conceal the fact that the showing is a distinctly disappointing one," was the summing up of the tradesman. "There are many new vehicles, but few novelties in construction, little of the real improvements that I looked for. The progress, although it is there, is slower than I supposed it would be."

Two things stood out from the ruck, one of them with the distinctness of a mountain peak set in a great plain.

The first was the signs—for it was only an indication—of forthcoming changes in the design of steam vehicles. Its mate—the prominence referred to—was the wonderful growth of the popular priced gasoline runabout, so called.

Taking up the latter first, it may be fittingly likened to a prairie fire. It is of, for and by the West. The effete East may view it with indifference, turn to it the cold shoulder; it makes no difference to the sturdy westerner. The movement has his approval, and in his thoroughly characteristic way he has passed it

on as a good thing; and it has gathered force as it progressed until now nothing can stop it.

There is nothing surprising in all this. The Middle West partakes of its pleasures sparingly, mingling them frequently with business. The horse and buggy is its sign manual. What the bow and arrow or the tomahawk was to the aborigines of this continent, the musket to its first white settlers, the horse and



buggy is to the denizens—urban as well as suburban—of the Middle West. It is the means of transportation between town and country, village and city.

Therefore, the popular automobile, the vehicle of the masses, could be nothing but a horseless and a shaftless buggy.

Price foreordained this; the fitness of things re-enforced and clinched the matter. Both a disinclination and an inability to pay fancy prices existed. Yet progress demanded that the newest development of the day should have attention, that such an improvement as the automobile was admitted to be should not have turned to it the cold shoulder.



Out of this feeling grew the desire for a horseless buggy, to be sold at a price that the West deemed reasonable. As whenever a sufficiently strong demand for a thing exists, some one arises to supply it, so the Olds vehicle was designed, assumed form and almost immediately acquired wide popularity.

Until this came the West, outside of a few of the larger cities, regarded the automobile with a languid interest. With it, and its followers of the same type, came the awakening. That awakening, or its extent, became apparent only at the show under notice. There were exhibited for the first time well nigh a dozen vehicles of the type referred to. Then the country dealers and users poured forth to examine, to criticise and to buy. The design did not matter so much as did the price, although, for the matter of that, there was no very great variation in either.

As regards the latter, the extreme figures were \$500 and \$800. Nothing under the former was offered, scarcely anything over the latter could get a hearing. Rightly or wrongly, there existed a strong feeling that no maker was justified in asking a greater price than the one mentioned.

It need scarcely be said that the popular vehicle is one using a gasoline engine for its propelling mechanism. Its size, weight and price would, across the water, cause it to come under the head of a *voiturette*; but, again it is almost unnecessary to add, it is radically different from the *voiturette*. Its lines and design are purely—even aggressively—American. The engine has a single cylinder, is placed horizontally in the rear of the vehicle—usually under the seat. The simplest form of transmission is used—chain to a live rear axle, with differential. Two speeds forward and reverse are alone provided.

The vehicle itself is in keeping with this simple motor equipment. Wire wheels and tubular running gear, a buggy-like body carrying two passengers, long leaf springs running longitudinally—these are the distinguishing features. Sometimes, although rarely, elliptical springs are fitted, and a few other minor changes made, but they are not of a nature to require any transference of the vehicle to another class.

Such is the automobile which was clearly the popular type at the Chicago show. Its sales are certain to be limited only by the ability of its makers to produce it. And the production will be

enormous. Such a vehicle lends itself readily to rapid building, and it is doubtful whether even the steam vehicle manufacturers will be able to produce with greater facility.

Genuine novelty in the gasoline type of automobiles, however, was reserved for two vehicles also shown at Chicago for the first time.

The first was the Friedman vehicle, in which a friction drive or transmission is employed. A small friction wheel is forced against the face of the engine fly wheel, and the power thus obtained is communicated to the rear axle by means of chains and sprocket wheels. This method is not entirely new, being a mod-



A String of Darracqs.

ification of transmission devices employed abroad; and it is not, of course, to be condemned without trial. Only successful use, however, can remove the doubts one instinctively entertains regarding its efficiency under the stress of all around road riding.

The second vehicle embodies a radical departure in the design of gas engines. It is fitted with what is termed the Caloric or hot air engine. The claim is made that the heat which in explosive engines is gotten rid of by means of water jacketing and other devices, is here retained and utilized to the fullest possible extent, being really converted into power. The heat is applied to the bottom of the cylinders; air is then taken in and compressed in

the cool upper end of the cylinders and transferred to the heated end, where it expands and forces the piston outward. The hot air is then expelled from the heated end at the same time another cold charge is taken in. In operation, the vehicle handled well and did much to bear out the claims made for it.

The other forms of gasoline automobiles are too well known to require extended mention. The showing was a complete one, the range of vehicles being the widest possible. Notable was the new three cylinder car of the International Motor Car Co., which was striking in design and finish, the new Fournier-Searchmonts, and the big Packard surrey.

The trend in the direction of the foreign type of vehicle was not as marked as it was at the New York show. This is true even if allowance be made for the unusual number of popular priced vehicles already touched on at length.

Yet the movement is certain to be carried to its logical conclusion unless the user steps in and interposes a veto. In a nutshell it is the conflict of the carriage and the road locomotive. The latter is the newer, as well as the more costly and fascinating, and at present it is decidedly the more talked about. But it remains to be seen whether this popularity is of the transient or the enduring kind. The public, in common with the trade, is unable to speak as a unit. A large portion of both is engaged in the task of coming to a decision; the pros and cons are being weighed, and in due course the verdict will be rendered, without the pro-carriage and the pro-locomotive advocates having much to say in the matter.

Returning to the consideration of the other epoch-marking feature of the show, the evidence—or should it be called merely a hint?—of forthcoming changes in steam vehicles.

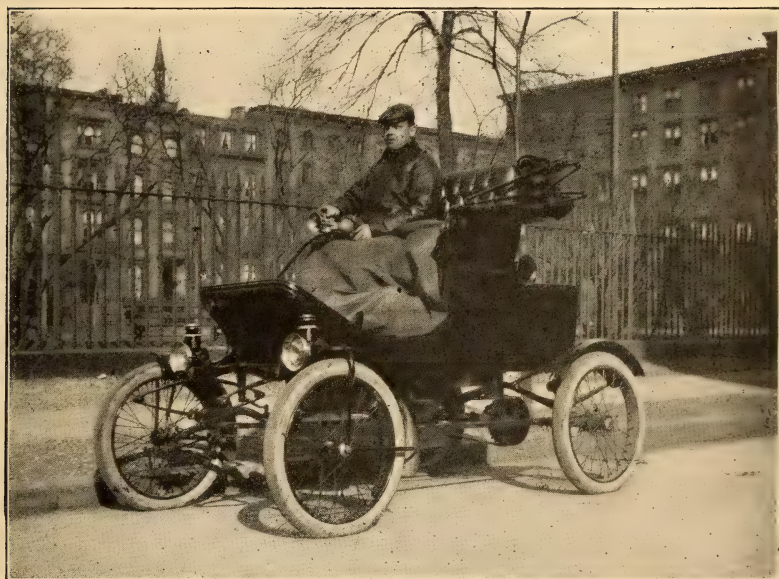
Save in the matter of an increase in weight and size, steam vehicle designs have remained almost stationary since their introduction. They were then and ever since emphatically horseless carriages. The rising tide which has swept such a large proportion of the gasoline manufacturers over to an endorsement of the foreign model, has, until very recently, left the steam vehicles almost untouched. Carriages they were at the beginning, and carriages they appeared destined to remain until the end of the chapter.

So it looked at the New York show. In the brief interval



much took place. If credence be given to the stories afloat, and they be added to what is really known, there is plenty of change coming.

At Chicago, however, the impending movement had but three vehicles as heralds. They were those of the International, Foster and Milwaukee concerns, and in that order they should be ranked, as regards departures from accepted standards, the last named being the most distinctly foreign appearing of all. By this is meant that they suggest the bonneted vehicle, gasoline by preference and as a rule, but seemingly not destined to continue to mark that



Taken While a White was Waiting.

type exclusively. Such design is a departure from the conventional carriage form; and as there is in some quarters a very decided tendency to get away from this form, its popularity grows apace.

It is the vehicle design almost solely that steam automobile builders seek new fields. The engine, boiler, etc., are left untouched. They appear to be subjected to no innovating attacks, but, on the contrary, to have established quite beyond cavil their right to exist practically unchanged.

Users have long ceased to look for startling innovations in electric vehicle designs.

Here, even more than is the case with the steam class, carriage ideas prevail. Some changes are necessary when the horse is displaced by a battery and a motor, but they fall far short of those called for when steam or gasolene engines are coupled with road vehicles. And the electric vehicle, largely by reason of its field being more circumscribed than is that of its sister vehicles, has always been produced in a larger variety of patterns.

Consequently detailed changes merely were seen in this section. They were in the direction of an increased radius, in many cases of slightly greater speed, more economical transmission of power and greater battery efficiency. Not a few new vehicle designs made their appearance also, notwithstanding the fact that in this respect they have always led.

These and other observations will come to the experienced automobilist who critically examines the vehicles at such a show as that held at Chicago. Of attention—commanding departures from accepted standards there was little—almost nothing. He who expected or looked for such was doomed to disappointment. The art has reached too advanced a stage to warrant one to look for anything of the kind. Toward the goal which users and makers alike so ardently desire to reach, the progress must necessarily be slow. The day for advancement by leaps and bounds has gone by.

If, on the other hand, the user looks for a widening range of choice—prices, different standards of excellence, variety of design, all these being had in mind—he will not be disappointed. On every hand he will find what he wants embodied in the different types.

Reliability remains the chief desideratum. Not even speed, highly as it is valued, takes precedence over the former.

To this end improvements in details are constantly going on. Where a year ago ground for complaint existed, the causes have been removed as far as can be done in advance of the riding season. New ones will, of course, arise under the stress and strain of severe usage. But unless all signs fail, they will be fewer in number and of a less serious nature.

Notwithstanding considerable progress has been made in the direction of uniformity of design—the difference between the New

York and the Chicago shows even being noticeable, no user need look in vain for any particular departure from standards as far as they may be said to be established. Both in vehicle and engine design he may obtain what he wants if he looks closely for it. There is scarcely a disputed point—engine position, number of cylinders, transmission, ignition, steering, wheels, reaches—that the doctors do not disagree upon. The result is that the purchaser has it in his power to select almost at will.

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## Some Chicago Show Observations

By W. J. MORGAN

**A** THICK set, bearded, broad-shouldered man visited the Chicago show when it was but half over. His face seemed familiar to an Automobile Magazine representative who finally recognized in him the great French manufacturer, M. Clement, President of the Panhard-Lavassor Company, of Paris. M. Clement seemed to be doing the show incog., and his two friends were equally mysterious and reticent. The writer last saw Mr. Clement at Malden, Mass., where he and I sat on a wagon together at the finish of the 1896 Linscott Bicycle Road race. This particular Frenchman is one of the greatest in a mechanical way that France has produced, and he was the pioneer maker of bicycles there, the Clement being the first "modern" bicycle, which is a son of the old velocipede and father of the still more modern ordinary bicycle which in turn was a sort of step-father to the present safety. I rode a Clement twenty-three years ago in England, only deserting it when the English manufacturer had run away from the French builder in the way of improvement.

History repeats itself, and once again the Frenchman is leading and it cannot be denied that both the English and American manufacturer has the French model in view when drawing his designs of his automobile. In some cases the Chicago Show looked very Frenchified, and the Frenchmen smiled when they saw American efforts in that direction. Mr. Clement said he was glad to see the Americans copy a good thing, and they would be given ample opportunity to copy some more before the French maker had completed his improvements. One of Mr. Clement's



companions bluntly stated that the American builder was about five years behind the French one, and there was much to be learned by the Yankee before he would make an automobile that would pass muster in France.

The various forms of power in a motive way seen at the show interested many people, and each form had its advocates. Steam held its own very nicely, and much of the revival of steam carriage interest can be traced to the White Sewing Machine Co.'s very satisfactory vehicle. Some of the older companies should feel thankful for this since it cannot be denied that many boilers have been more or less faulty and things of dissatisfaction to the unfortunate possessors of steam carriages. Under the guidance of the White success there seems to be an improvement all along the line in the way of boilers, all of which gives promise of a lengthened life for the use of steam as a vehicle power.

There was a decided improvement in the display of electric carriages. The electric power machine is certainly coming to the front and the improved battery is responsible for its doing so. The improvement in charging facilities has also much to do with this since when the owner of an electric carriage can have his own individual charging plant or when he will be able to take power from the street by slipping a coin into a convenient slot machine, then will the high noon of the electric automobile arrive.

Nothing much need be said of gasolene except that the explosive engine was there in force and various forms. Simplicity in construction seems to be the very wise endeavor of the manufacturer of gasolene engines. Absence of odor and elimination of noise are two much to be desired improvements which Yankee ingenuity is gradually giving to the explosive engine.

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Some of the women who affect motoring are passing fair and some others are past.

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The difference between pride and vanity in motoring is that we have one and the other fellows have the other.

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The poetry of automobilic motion is synonymous with the motion of automobilic poetry when the editor tosses it into the waste basket.

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*A Live Journal for all interested in Motor Vehicles*

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## The "Chauffeur" Problem

**H**OUSEWIVES have their troubles with the house servant question and automobilists are finding out that it isn't the easiest thing in the world to find a chauffeur who just fills the bill. Time was, and not so many months ago either, when any man who could speak French and start a motor three times out of five was hired on the spot and thought to be a jewel of the first water. But experience has taught us through the medium of bursted water jackets resulting from neglect to drain on a cold night, and other equally memorable examples, that further requisites are necessary to complete satisfaction and that the desired combination is difficult to obtain.

We want a man who is familiar with the mechanism of the car in question, who can coax it to move when for some unaccountable reason it balks under our own care. He must also be ingenious enough to devise little repairs on the road, should they

become necessary, and must keep the entire vehicle in good repair, preparing for breakdowns caused by wear and otherwise. These are the features which require a mechanic who is a skilled workman.

The other requirements are cleansing the machine and driving it, both of which are functions of a coachman and few skilled mechanics are content to play coachman. Their skilled training and the independence of their position in the labor world gives them good cause to resent the imputation of being a servant in the usually accepted sense.

If motors never went wrong on the road the solution would be easy, for a good coachman can learn to handle a machine as much as necessary and the mechanical end could receive attention at home or in a repair station. But the mechanic is most needed on the road in case of an emergency, the owner usually prefers to drive and the coachman is most needed at home to wash the vehicle after it comes in.

So the whole question is somewhat complicated and with no visible solution unless we can make skilled mechanics of our coachmen or induce the mechanics to forget their skill until it is needed, when for the time being they can be monarchs of all they survey.

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## The Money Value of Good Roads

**T**HE annual report of the Maryland Geological Survey announces that the people of that state have expended over \$6,000,000 in the last ten years on their common roads; most of the money has been wasted in continual repairing. Many of the roads have no natural drainage. They are bad roads a part or all the time.

The Survey has made a careful estimate showing that it costs the people of Maryland \$3,000,000 a year more to do their hauling over poor highways than it would cost if they were turned into first-rate roads.

This estimate supplements the information collected by the Department of Agriculture when it received data from over twelve hundred counties from all over the country and found that the average cost of hauling a ton load one mile was 25 cents, while the average cost in six European countries that possess improved highways was almost exactly one-third as much.



More than one factor enters into the cost of hauling, but the main reason why American farmers pay three times as much per mile as European farmers pay is that the Americans can haul, on an average, only one ton over poor dirt roads, while the European farmer hauls from three to four tons at a load over fine highways.

In doing what he can to overcome these archaic conditions in his country, the American automobilist, even if he is actuated solely by a selfish motive, which we do not believe he is, is still doing a work which is second to none where the question of public welfare, comfort and prosperity are under consideration. Reformers are never popular, particularly with the very people their reforms would most benefit, and the American automobilist is no exception. The rural anti-progressive views with profound distrust any effort to benefit him through any alteration of his characteristic lack of energy and ability, hence he loves not the automobile or its natural product—the advocate for improved highways. Unfortunate as this condition is, it was not unexpected and will not prevent, though it will delay, the arrival of the day when the man who has occasion to use an American road will have an American road fit for him to use.

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Why scorch? If you use an automobile, do it soberly, quietly, happily.—Boston Record.

Who does scorch? Hasn't scorching become a lost art or nearly so? Where scorching exists, except in some hardened cases, the presumption is, the general good character of the automobilist being established, that he means to be sober, quiet, and happy. But the devil sometimes enters into motors. They are but too capable of demoniac possession. When an automobile goes wild, then look out for trouble, although all the bicycle policemen surround you. The good man with the bad motor can work more woe than the bad man with the good motor. There are motors of a temper as pleasant as that of a cooing dove. Anarchist motors irreclaimable desperadoes. They usually get into the hands of sober, quiet, and happy persons who don't know how to manage them.

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To make the present type of motor vehicle a more comfortable conveyance in bad weather should be the effort of the manufacturers. It is not overstating the necessity for doing this to say that there is more need for a good bad weather automobile than there is for a

good pleasant weather one. When the weather and the road conditions make the use of the horse impossible or inadvisable, then the motor vehicle should shine by comparison. Many would use a practical automobile of this kind to save their horses, who could not in the first instance ever be induced to purchase any but a horse-drawn vehicle. It would not be at all necessary to entirely reconstruct the present type of bodies if, as a beginning, the now almost universal low dashboard was built with the same rake as the steering pillar, curved and brought well back and over the steering wheel. Carrying this to a sufficient height to almost entirely cover the driver would not detract from the appearance of the vehicle, while it would add decidedly to the comfort thereof.

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Automobiling is undoubtedly one of the conspicuous evangelists of health. The man who has religion and an automobile ought to be entirely satisfied with his lot. He is an enviable creature, and has no reason to be envious of others. To take a ride in the direction of a good appetite and dreamless sleep and to overtake and capture both is to be victorious in a very important conflict.

But there are limits beyond which this noble exercise becomes irritable and takes revenge. Don't abuse the new locomotion, but treat it with respect and reverence. It is better to ride twenty miles and feel benefited than to cover one hundred in record time, and feel the need of a restorative or a sedative of some kind. What you want is health and enjoyment, and if you use an automobile with any discretion you will get both.

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Don't talk about carriages belonging to other people, for they might find it out and act unpleasantly: don't talk about yours, for you will make other people tired, and will become unpopular: don't talk about automobilic things in which you are especially interested, for people will say you are a crank; don't talk of things in automobiling of which you know nothing, for people will say you are ignorant; in fact, don't talk shop.

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One of the most amusing features of the opposition to good roads legislation is that it is based on the assertion that such legislation is an attempt on the part of the cities to dictate to the country. The average rural voter sees nothing amiss in dictating legislation year after year for New York or Buffalo, for government

of which he is practically not taxed a penny, but he is instantly in arms when cities suggest legislation for the country, and, as in the case of good roads, offer in addition to bear substantially all the expense thereof. The good roads bill advocated by the Automobile Club of America and its allies should be pressed, if only to show that the cities really have some rights and wishes the country is bound to respect.

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"A horse is a vain thing for safety," said the Psalmist; and the character of the noble steed is no better to-day than when the comment was originally made. People who inveigh against the dangers of motor vehicles might study with benefit the statistics relating to casualties caused by horses. Unfortunately there does not appear to be any list available in America; but such a table has been prepared in France, and it may justly be assumed that the Gallic steed is no worse than his American comrade. During the month of February, France recorded 967 accidents with horses, of which 88 were fatal. In the same period of time railways killed 8 persons only, bicycles 6, while automobiles were responsible for but 2 deaths. Automobiles have a lot of leeway to make up before they can overhaul the horse as an accident causer.

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Charging 100 per cent. profit is generally considered fairly high, but druggists demand much higher profits on many of their business transactions. Calcium chloride is a compound used by some automobilists as a non-freezing mixture. In large quantities the stuff is worth three-quarters of one cent, but retail sellers generally charge about four cents a pound. A correspondent writing to the AUTOMOBILE MAGAZINE mentions that a druggist asked him 35 cents a pound for calcium chloride, and we have no doubt that many persons have paid that amount. The thing is worth making a note of by people interested in non-freezing mixtures.

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An Ohio scorcher having run down an Ohio editor, the class to which the infuriate automobilist belongs comes in for renewed local animadversion, which it well deserves. In Gloucester, England, recently, it was declared that there would be no relief from the motor scorchers making city and suburban avenues almost impassable till one of them had killed a bishop. But perhaps merely



damaging an editor may work some relief in Ohio, subduing the impetuosity of the local scorcher and teaching him the lesson of his obligations to his fellowman.

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At the Preston Great Horse Fair, an English institution of considerable antiquity and prominence, the big draught horses, which formerly were sold for an average price of \$300, went begging this year at less than \$225. It was the consensus of opinion that this type of animal was so rapidly being supplanted by the mechanically propelled vehicle that his breeding would eventually cease, owing to the demand for the animal becoming so limited as to make his breeding no longer profitable.

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"In medio tutis simus ibis" applies to automobiling as well as to everything else in life. The upright sitting steersman of a motor vehicle has a chest capacity of 240; he who sitteth over his steering wheel at an angle of 45 degrees a chest capacity of 220; the drooping and degraded scorcher a chest capacity of 210. But what will the scorcher care for these things? He doesn't own or use an automobile to improve his chest capacity, but to enjoy himself in his paretic fashion.

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When does a driver know a road? Plenty of automobilists no doubt believe they really know all the good roads encompassed within the district wherein they usually motor. How many of them could sit down and from memory write a reliable and exact description of any particular road, no matter how often they may have gone over it? If you think you are one who can do this, try it and learn how easy it is to be mistaken.

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"From the time of our birth to the time of our death and burial the public road is a subject which concerns every man and every family" These words of ex-Gov. Beaver, of Pennsylvania, a clever student of the road problem, tersely illustrates the importance of any movement which looks to the development of a community's highways.

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In course of time the man criminal and unprogressive enough to bring a horse into a city may be fined or imprisoned for doing so. The arrival of this enlightened period is not, however, yet in sight.

When you enter into a wordy discussion with another user of the highway over your rights and his there, never forget that the only difference between repartee and impudence is the size of the man who says it.

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Germany has set apart \$75,000 for the continuation of the experiments with motor vehicles for military purposes. The American Government has set apart for the same purpose—nothing.

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Politicians and automobile makers are not backward when it comes to making promises, but they are often slow in coming forward for the purpose of making them good.

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It depends very much on what kind of a life you have led what will become of you if your brake refuses to do its duty in the steepest part of a dangerously steep hill.

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Diplomacy is making another man believe that you believe that he believes what you say about the vehicle you want to sell him when you know he doesn't.

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Many important discoveries have been made during the present century—but the absolutely fool-proof motor vehicle persists in remaining undiscovered.

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When you find the owner of a motor vehicle who doesn't worry about its condition, you may be sure there is someone who worries for him.

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If a woman has pretty hands and rings she will attempt to steer an automobile whether she ever learns to or not.

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Perhaps the best a scorcher can hope is that when he makes a fool of himself he shall not do it too conspicuously.

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It takes a very successful designer to draw a large bank check.

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In the purchasing of a vehicle beware of a dead-sure thing.

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Cheap wheel bearings are works of friction.



*(We desire those interested in both the manufacture and operation of Automobiles to send whatever they think may be of interest to our readers.—EDITOR.*

### To Make Dodging Difficult

**I** BELIEVE I am only like all other decent, self-respecting users of the motor vehicle in my desire to prevent a few harum scarum, devil-may-care owners of big racing vehicles from injuring the good repute of the automobile.

My own observation has shown me that something must be done to prevent the recklessness of these foolish ones if we are to escape being burdened with restrictive legislation such as will retard the introduction of the automobile as nothing else could do.

As a perfectly feasible method of punishing the guilty without doing the same for the innocent, I would suggest that upon registering at Albany as the law now compels all owners and drivers of motor vehicles to do, a card be issued by the state showing the owner's name, residence, etc., which card every driver of an automobile must at all times carry with him when driving. Now in event of an arrest for violating the law let that fact be endorsed upon the card by the magistrate. For the first arrest let only a caution be the penalty; for the second a fine of say \$50, and on the third conviction let the license be withdrawn, a fine imposed and a short term in the county jail be meted out.

The beauty of the plan I have outlined is that each automobilist will at all times carry with him a complete record of just what kind of a road user he is and the magistrate before whom he is brought will by this means be enabled to act intelligently in



apportioning out punishment. I think the first case wherein the extreme penalty I have outlined above is visited upon one of these scorching gentlemen will be the last case. Such justice is not conducive to a desire for responding to an encore on the part of the recipient.

Bay Side, L. I.

T. S. COSGROVE.

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### Principles of Automobile Construction

**I** WAS fortunate enough to hear Prof. Hutton the other night at the Automobile Club of America, and noted a few of the principles and prophecies set forth. Among them was the advantage of the variable speed of a steam engine, due to varying the cut-off and the desirability of doing away with the clutch in a gasoline carriage.

Now I admit the convenience of control of the steam carriage due to the possibility of control by cutting off and throttling, but there is an economical point for all engines or motors, regardless of the kind of power used. While you do not lose as much in the steam engine by varying speed as in the gas engine, it would be better economy to run it at a constant speed, and vary the speed of carriage by gearing, if the loss in the gearing can be kept within reasonable limits.

I have recently seen a device for varying speeds from six miles and hour backwards to thirty miles ahead, including a zero position with no motion to carriage. There is no step by step motion, but a continuous change, and the carriage which is using this in its make-up ought to be popular.

It does away with the clutch objected to by Prof. Hutton (although it is practically a continuous clutch itself, but a good one) and I'd be inclined to try it on a steam carriage of any size.

Cincinnati, Ohio.

FRANK C. HUDSON.

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### Thinks He's The Only One

**M**AY I intrude? I won't take up much of the space which you always use to such an advantage in this portion of each issue. But if you will allow me, I want to tell you of some really remarkable performances I am indulging in without anyone but myself and one small instrument being aware of them. Here is the why and the wherefore.

I stepped into one of those places where motor vehicles are fixed up without pain, the other day, and as soon as I could control myself I asked for the most reliable instrument they had for the measuring and the recording of the number of miles that automobile of mine traveled. The clerk produced one which he said was a perfect Washington for truth and veracity. I affixed it to my wheel and ever since I have been acquiring new ideas in regard to distances. I have said in my haste all such instruments are liars. If some one will invent a brake for mine I should like it. At present it is running double time in spite of overproduction and the gas meter is outdone. Has any other reader of the Automobile Magazine had a similar experience, I wonder?

Moosmore, Me.

JAMES G. REDDINGTON.

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### Individual Charging Plants

To me it seems as though the cleanly, noiseless and neat appearing electric is the ideal one, if only the difficulty of recharging could be overcome. Has any system been devised whereby the owner of an electric carriage can provide himself with a private charging plant without spending a small fortune in so doing?

Denver, Col.

R. M. HARTSHORNE.

If the writer of the foregoing wishes to generate his own electrical energy he can do so by purchasing an outfit consisting of a 3 H. P. gasoline engine, generator, switches, etc., for \$250, which will supply him with all the current required for the ordinary pleasure vehicle. Should, as we imagine from his address, he desire a motor and generator for converting low frequency, single phase, alternating current to direct current, he can secure such a plant for \$100, which will charge the ordinary carriage in from ten to twelve hours with no attention whatsoever. These electric carriage conveniences are both made and sold by the International Motor Car Co., Indianapolis, Ind.

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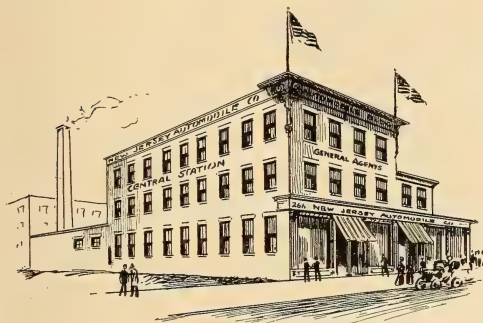
The owner of a motor vehicle is startled sometimes when he thinks of his former ignorance; but he generally feels that his present knowledge is ample.

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The mistakes of other automobilists do much to inspire us with confidence in our own ability.

## New Jersey's Model Establishment

**W**ITH the completion of the building here shown, the New Jersey Automobile Company will have one of the most complete establishments of its kind in this country. The plans call for something over 16,000 square feet of floor surface, to be divided up into show room, storage room, salesroom, reception room, reading room for patrons which will contain a complete file of all the automobile trade papers, assembling room, offices and private office, locker room and dressing room, baths and shower baths, and reception room for ladies.



The repair shop will require 1,200 square feet and will be equipped with lathes, drill press, condenser, etc., etc. The N. J. Automobile Company running its own electric light plant will be in a position to charge six electric carriages at once. This will be the

most thoroughly equipped motor vehicle repository in New Jersey, and it is questionable if its equal will be found elsewhere in the United States. The New Jersey Automobile Company carry in stock the Autocar, the Baker Electric, the Spaulding, and as general agents are correspondents for all of the well known makes. Besides the vehicles themselves, a full line of parts as well as all the regular automobile specialties are carried. Touring automobilists will be made welcome at all times, the building at 226-230 Halsey street, Newark, N. J., being open night and day.

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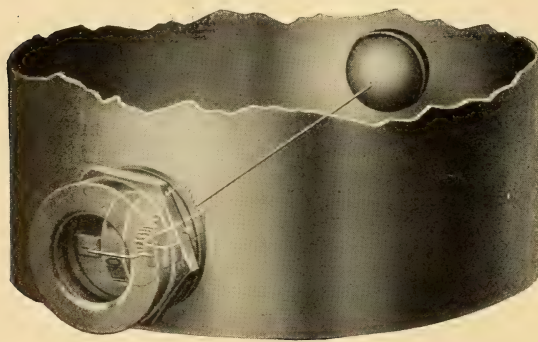
## The Most Interesting of the "Talks"

Among the most interesting of the weekly talks which have been given at the Automobile Club of America and the Long Island Automobile Club, has been that of Rollin White on the vehicle which bears his name, and whose performances have been among the sensations of a sensational season. Not only is Mr. White thoroughly at home in all relating to his own boiler, the semi-flash one, but in his remarks upon the Serpolet system he showed that the Frenchmen had done nothing which the American did not appreciate, and could not himself have done had he not preferred to follow his own original ideas in designing and constructing.



## Shows Gallons at a Glance

**A**CCIDENTS will happen, and the worst part of their happening is that they invariably select such unsuitable times and places for doing so. For example, did you ever notice how the discovery of a nearly empty fuel tank was always sure to occur when you were at the point furthest removed from an available supply station? Usually the character of tell-tales is not so sufficiently praise-



worthy as to warrant commendation, but here is an exception. By the use of the instrument, here shown, the tale of the gasoline supply is told accurately and promptly, without any danger from bursting gauge glasses, or other similar unpleasantnesses. On a dial be-

neath a heavy glass is at all times shown in large figures, the exact number of gallons of gasoline remaining in the tank, thus making the ingenious little device one few users of steam vehicles can afford to be without. The John Simmons Co., 106 Centre street, New York city, are the makers.

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## Carried Nine Men Up

**N**OT without reason has it been held that the supreme and the final test of a motor vehicle is ability to surmount grades.

Judged by this, then, the National Electrobile has a license to claim first honors. At the recent Indianapolis show, just to prove what the vehicle could do in grade climbing, nine men were crowded into a vehicle supplied with a 2 H. P. motor capable of a 6 H. P. overload, and the National vehicle carried them safely. and swiftly up a distance of 160 feet at a grade varying from 19 to 25 per cent. When it is remembered that all other vehicles claimed at least 8 H. P. to carry only two passengers up this same incline some idea of what a wonderful performance this was of the Indianapolis made vehicle may be gained, and naturally its manufacturers, the National Vehicle Co., are somewhat elated over the performance.

## The New Passenger Carrier

LONDON'S famous buses and the quaint characters, who for many years have held the reins over the horses which drew them, are to be replaced by this. The new vehicle is built by Thornycroft, uses coke for fuel and seats thirty-six passengers. An average speed of eight miles per hour is maintained through crowded traffic and unfavorable weather, thus leaving the horse-



drawn vehicle far in the rear. Within the four-mile radius from Charing Cross there are plying year in and year out some 2,500 omnibuses and about 12,000 hansoms. The omnibuses carry about 350,000,000 passengers yearly, but they are hideous contrivances, intolerably cold in winter, intolerably stuffy in summer. It is they who set the pace for the rest of London, for they are big, lumbering, difficult to pass and constantly stopping to take up passengers.

## Made by French in St. Louis

**T**HE St. Louis Motor Carriage Company may have not made as much noise as some of their competitors, but they have made a lot of real progress in supplying the public with a very serviceable motor vehicle. The new 8 H. P. St. Louis, which is now coming through in goodly numbers is cheap at \$1,100. In this their latest the Messrs. French have made some radical improvements. They have made some changes, but have not sacrificed any of the virtues of their well-known single cylinder engine. One of these changes is doing away with the magneto and substituting jump coil ignition therefor, to which is coupled a double set of batteries. The cylinder and head are now all in one piece and all the gearing runs in oil, and a perfect alignment of parts is absolutely certain. The latest type of spring suspension is supplied in the new model, and is a patented feature of the St. Louis carriage.

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### For the Comfort of Tourists

In connection with its greatly improved machine shop, the Newport (R. I.) Engineering Works has provided a special reception room for automobilists. This room will be directly over the office of the company, and will have on file the New York daily papers as well as the local papers; also the principal marine, yachting and automobile journals. The room is situated on the water side of the building, affording a fine view of Newport harbor and a pleasant cool spot where one can read the papers, write letters, etc. All mail matter or packages sent to automobilists in care of the Newport Engineering Works will be delivered when possible, or if the tourist has proceeded on his way, but his address has been entered in the address book, the mail will be forwarded. Otherwise letters will be on file where they can be readily found by their respective owners. A telephone and other facilities will be provided. The use and advantages of this room will be entirely free to all yacht officers and automobilists, and they will be welcomed at any time.

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At the beginning of the present year two thousand and forty automobiles had been declared to the authorities in Belgium. This total is made up of 1,364 cars, voitures, and delivery vans, 609 motor tricycles and quads, and sixty-seven motor bicycles and tandems. The province of Brabant heads the list with 917 automobiles.

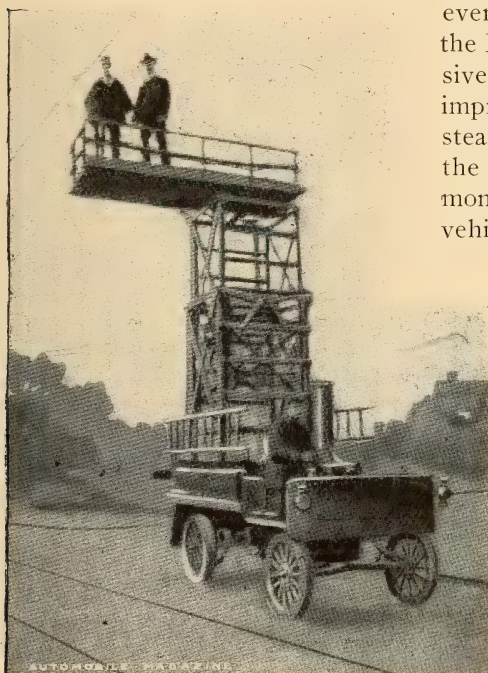


## The Modern Trolley Ambulance

Though the Englishman had to learn from America of the trolley's advantage over the horse car, he has not had to receive any education from the same source on the advisability of making the supplanting complete. So while America, the home of the trolley, yet depends upon the horse for motive

power, to carry around the ever necessary repair wagon, the Englishman, more progressive, has come away with his improved wagon, of which steam is the power and coke the fuel. At the end of six months' employment, the new vehicle has been found to per-

form the work required of it, not only more quickly, but \$770 per year cheaper than the horses it supplanted. In view of the success thus attained it would seem as though it could not be long before the improvised wagon was adopted by the American trolley companies.



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### Good Roads' Movement

As having lead to better roads,  
The auto is much defended;—  
The way of true love, never smooth,  
Though it is vastly mended.

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It is urged that indulgence in motor scorching makes women ugly; so that handsome is as handsome doesn't.

## A Most Complete Establishment

**T**HE premises known as Niagara, in London, which has a floor space of over one acre, will henceforth be used as a show room and storage station for electric vehicles only. The English company which have acquired the property undertake, for a certain annual charge, which is based upon a percentage of the price paid for the vehicle, not only to store it and do the recharging, but also to keep the batteries, motors, and all parts of the vehicle in good order, and to supply new ones when they are required. By an insurance system they are enabled to make good even injuries due to accident, and a purchaser of an electric vehicle knows that beyond paying therefor in the first instance and the subsequent fixed storage charges he has nothing further to trouble about, and will always have his conveyance ready when he wants it. This idea would survive importation to America.

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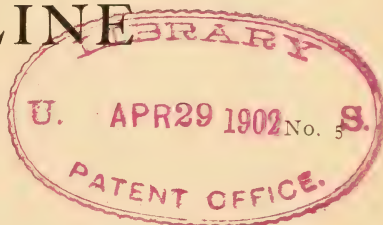
*King Edward VII*



# THE AUTOMOBILE MAGAZINE

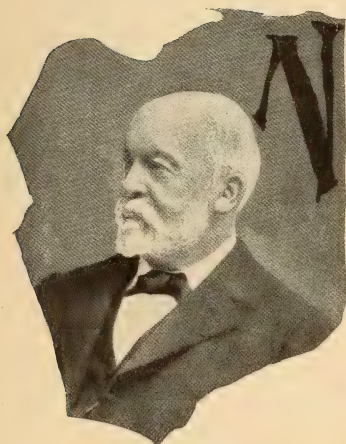
VOL. IV

MAY, 1902



## King Edward's Daimler

By A. F. SINCLAIR



The late  
Herr Gottlieb Daimler

NO city in all England has a more romantic history than Coventry, the present center of British cycle and automobile construction. With a population of about 60,000 it has historical associations enough, legendary and authenticated, to suffice for a place as big as Greater New York. Its very name is hoary with age being derived from Couen, the ancient British name of the river Sherbourne, on the banks of which the town is situated, and *treu*, the word in the same language for "town," and as the Britons were hunted from that district by their Saxon conquerors about the year 626 A. D., the name probably existed before that date.

By far the most widely known incident of the town's history occurred about the year 1040, when the Lady Godiva secured for it the clemency of her husband, the Earl of Mercia, by an act which, for courage and devotion, is unsurpassed in history. Earl Leofric



was a man of ideas, coarse perhaps, but original, and it was a coarse age; and when the Lady Godiva besought him to relieve the town from certain greivous exactions which he had imposed upon it for some unrecorded offense, he agreed to comply with her request, but on a condition which he never thought she would accept.

“And from a heart as rough as Esau’s hand  
He answer’d ‘Ride you naked thro’ the town,  
And I repeal it.’”—(Tennyson.)

She accepted the condition and after making proclamation for people to remain indoors, and not look out, she complied with it, and won for the town the remission of the ruinous tax. The act was celebrated annually about the date of its occurrence until quite recently by succeeding generations of townspeople, and is commemorated by a stained glass window in St. Michael’s Church, to which reference was made as long ago as 1690. In a niche of the same building is an effigy of an unfortunate tailor, Peeping Tom, the only man in Coventry who neglected to observe the proclamation, and

“Peep’d—but his eyes, before they had their will  
Were shrivelled into darkness in his head,  
And dropt before him.”—(Tennyson.)

It is to be feared that in all but absolute purity of mind Coventry has not improved during the intervening centuries. A Blind Asylum, however moderate in size, is an expensive institution to maintain, and present day citizens should thank their stars that no possibilities exist of the incident being repeated.

For a small town Coventry played an important part in the history of England subsequent to the Lady Godiva incident. Two important parliaments were held in the town during the Fifteenth century, and during the same period religious plays by the Grey Friars were occasionally attended by the succeeding monarchs of the country. In the following century, however, Bluff King Hal went on the opposite tack and demolished their beautiful cathedral. At Coventry, also, was to have been fought the trial by combat between the Dukes of Norfolk and Hereford, immortalized in Shakespeare’s *Richard II.*

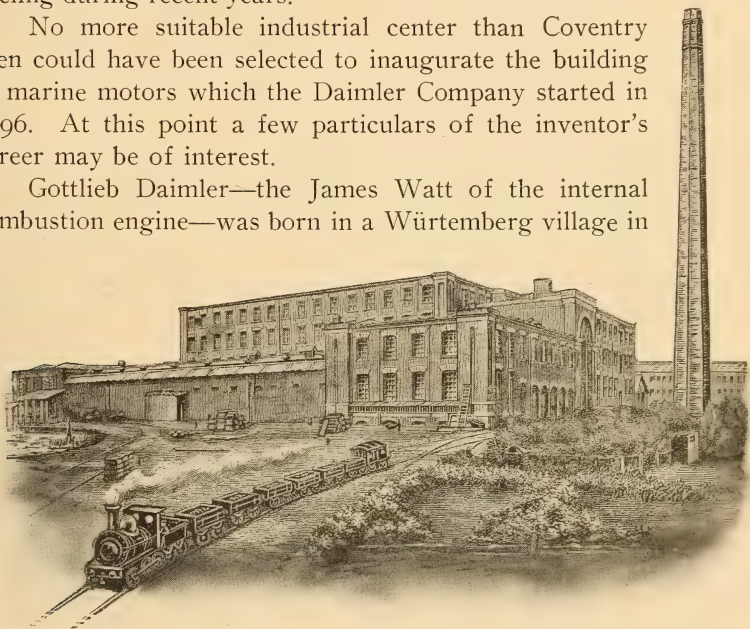
Up till the end of the Seventeenth century the town’s manufactures consisted almost exclusively of woolens, but gradually as in the case of several North Warwickshire towns, the manufacture



of other textiles and metals of various kinds was introduced, until at the present time manufactures of silk, wool, and cotton, besides those of many metals, are produced. Cycle making is probably the most important industry, and this, notwithstanding the slump in cycling during recent years.

No more suitable industrial center than Coventry then could have been selected to inaugurate the building of marine motors which the Daimler Company started in 1896. At this point a few particulars of the inventor's career may be of interest.

Gottlieb Daimler—the James Watt of the internal combustion engine—was born in a Württemberg village in



Daimler Works, Coventry

the year 1834, and even in his boyhood displayed much of the mechanical ability which later in life became so highly developed, and brought him fame. Taught the trade of a machinist he improved his knowledge during his *wanderjahr* both in Germany and England. His *wanderjahr* appears to have extended into a good many years, however, for it was not till 1872, when he was thirty-eight years of age, that the work of his life began. A casual meeting with Dr. Otto in that year, led to the discovery of a mutual interest in the question of internal combustion as a practical motive power.

It was agreed to combine forces and the Gas Motoren Fabrik at Dentz, across the Rhine from Cologne, was started. For a long time the work was experimental, and ten years elapsed before the business was placed on a paying basis. Before that satisfactory state of matters was attained, however. Crossley Brothers of

Manchester, had secured the British patent rights, and had begun the construction of the Otto gas engines, which have made the motor and the firm well known all over the world; and with this undertaking, also, Daimler was associated in the character of adviser.

In 1882 Daimler resigned his position as managing director of the Gas Motoren Fabrik and began at Cannstadt the experiments for the production of an inflammable vapor as a substitute for coal gas, which resulted in the birth of the present day gasolene or petrol motor. His success was not immediate, of course, and five years were occupied in continuous labor and experiment, but in 1887 his exertions were crowned by success and a motor was produced, which is, in all essentials, identical with the best type in use to-day.

Efforts have not been wanting to detract from Daimler's share in the invention of the internal combustion engine, and Frenchmen especially claim the title for both Beau de Rochas and Lenoir. With equal justice might the invention of the steam engine be credited to Papin and Newcomen. A mere abstract idea is of small value, and although any contrivance, however clumsy, which embodies it, is of some consequence as a step forward, it is really to the man who devises the first workable, practical machine, who invents and applies the accessory parts necessary to bring it to that condition, to whom the chief credit is due, and all that Daimler did for the internal combustion engine.

In January, 1896, a company was formed in England for the purpose of acquiring the Daimler patent rights for Great Britain and carrying on the construction of marine motors. In selecting Coventry for its works the company was, of course, influenced by the existence of an extensive kindred industry, from which it could depend on drawing the necessary number of machinists of the most suitable description. There is no doubt that this convenient source of high skilled labor has had much to do with placing the town in its position of supremacy, so far as British automobile construction is concerned. The company was registered as the Daimler Motor Syndicate, Limited, and consisted originally of seven members, with works known as the Daimler Motor Mills.

During the six years which have elapsed since that time, the inventor has joined the majority, death having claimed him on the sixth of March, 1900, but he died as few great inventors are privileged to die, full of the knowledge that his labors had brought

complete success. During the same period the company has become the Daimler Company, Limited, their works, the Daimler works merely, but while their names have diminished, their objects and the extent of their works, have both been enlarged.

The company now manufacture automobiles, although some business in marine motors is also carried on, and their works now cover about three acres. The company claim to be the largest manufacturers of motor vehicles in Great Britain, and not only to



King Edward and the Honorable J. W. E. Scott-Montague, at the latter's residence, Highcliffe Castle, Hampshire. The vehicle is the King's new Daimler.

have been the pioneers of the industry in this country, but to have kept their lead. As they manufacture vehicles of the highest class, and have a remarkable history of success in competitions in this country, it is probable that their claim is just. Although the marine section is still carried on, the company's output is principally automobiles, for which there is a steadily increasing demand.

It is somewhat significant in this connection, however, that the demand is largely for high powered cars: and in a country where



the legal limit is twelve miles an hour, it suggests either illegal running or an amendment of the limit: the latter probably, for one would not be justified in suspecting the noble and honorable legislators who buy the cars of any intention to break the law.

The present manager of the Daimler Company is Mr. G. Foster Pedley, a gentleman with a high reputation as a business man, with which, the writer desires to place it on record, there is a patient forbearance towards none too lucid interrogation which should add not a little to his fitness for an important position. Many automobilists, and it may be, some automobile writers, are none too conversant with motor mechanism.

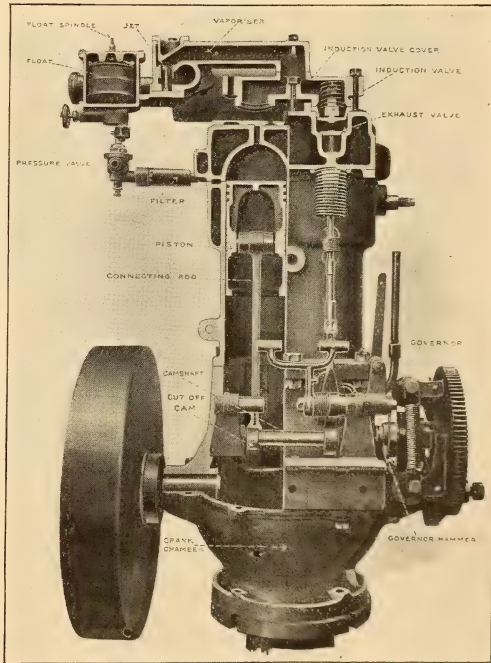
The first order received from King Edward by the Daimler Company was before the death of Queen Victoria, and while he was still Prince of Wales. It was for two vehicles, one a six-seated wagonette with a "Lonsdale" head, the other a fourteen-seated brake for carrying beaters to shooting parties, and for use as a station omnibus. The principal country residence of the Prince was Sandringham in Norfolk, and it was for use there that the second vehicle was required.

The King takes a keen interest in automobilism, although he does not drive himself, and has a much more thorough knowledge of automotor mechanism than is usual in an amateur owner. "The king can do no wrong" is a fundamental principle of the British Constitution, so that a prying policeman would find more difficulty in making out a case against him before the Justice Shallows of Surrey than they have found of late where many perfectly harmless automobilists were concerned; and, although he would scorn to injure or offend by taking advantage of his legal immunity from prosecution, he delights in good speed when a favorable opportunity offers. Windsor Castle is twenty-three miles from Buckingham Palace in London, yet it has been stated that the distance has been covered more than once well under the hour. That may not seem any great speed, but when it is remembered that a good many miles are through traffic more or less dense, it will be recognized that on some parts of the road the speed must have been higher by a good deal than the figures indicate.

On one occasion traveling from Sandringham with a couple of friends, to catch a train at Wolverton Station, he told Letzer, his motorist, to show the friends what an automobile could do. Letzer got in his highest speed as quickly as possible, and they reached

the station in five minutes. Around Sandringham, where he still resides a part of the year, the King on his automobile is a familiar sight. Queen Alexandra also is fond of the autocar, and occasionally drives herself. Her favorite vehicle is an electric victoria capable of running a matter of forty or fifty miles on one charge.

His Majesty is not free from certain characteristics of commoner flesh, just as a Sévres vase has something in common with an earthenware jug, and like all good automobilists he aspires after something faster, less dusty, less noisy, combined with smoother, leveler and straighter roads. Such of these desiderata as apply to the mere vehicle the Daimler Company are endeavoring to provide in the car now under construction. The company have undertaken to deliver a second new automobile before Ascot week in June, the great society horseracing function of the year, from which it might be inferred that the King intended some of his guests to enjoy in different ways both the new and the old forms of locomotion.



The new car is a six-seated tonneau with a semi-circular back to each of its spring seats, having a canopy, a glass dust screen at the back, and curtains at the sides. With the seat beside the driver in front the vehicle is therefore capable of seating eight persons. The body is of wood and is painted a rich claret color, relieved by narrow red lines. Needless to say, the enameling and upholstering work, the latter in real morocco, are of the highest class, and the vehicle as a whole looks in every way fit to carry a king.

The motor is placed in front of the dash board, with the crank shaft at right angles to the axle. It is of twenty-two brake horse-

power derived from four vertical cylinders in two pairs, each pair being cast with head included in one piece. Each cylinder is of 105 m. m. bore by 130 m. m. stroke, the pistons operating cranks on each pair set at  $180^{\circ}$  with a four throw arrangement. The normal speed of the cranks is 720 revolutions per minute, at which the brake horse-power given is developed.

The usual Maybach float-feed carburettor is used, the mixture reaching the combustion chamber by a separate valve for each cylinder automatically operated, while the exhaust valve is worked mechanically by the half-speed or cam-shaft. But of the latter operation more anon, as the old-fashioned story books were wont to express it. A reference to the sectional view of the two-cylinder motor shown will make the operation of the carburettor clear. The gasoline flows into the float chamber by pressure feed, and is maintained at a constant level, the height of the jet, by the float pressure on a needle valve. Around the jet is an annular space through which the air is sucked by the piston's first downward movement, carrying with it from the jet a regulated quantity of atomized gasoline. The air and gasoline being mixed in proper proportion the mixture passes through the vaporizer in which the two ingredients are more thoroughly co-mingled by the increased volatilization of the gasoline. Thence the mixture passes through the inlet or induction valve, which is opened, against its spiral spring tension, by the piston suction, and closes by means of that tension when the piston reaches the end of its stroke.

The charge is compressed by the first upward movement of the piston, and is fired when the second downward stroke begins. At the conclusion of this, the working stroke, the burnt gases are expelled, by the returning upward movement, through the exhaust valve, which is, as has already been mentioned, opened mechanically each alternate revolution of the crank. It may, to the enlightened reader, appear somewhat late in the day to describe these old familiar details, but it must be borne in mind that this motor was, in a figurative sense, the first of its race, the progenitor of the thousands now in use, and therefore worthy of description. Besides all readers are not enlightened.

On the new car ignition is effected either by an electric spark or by a heated platinum tube. The electric fittings consist of accumulators and induction coil giving a high tension jump spark within the combustion chamber by means of mechanism working outside.



The sparking plugs are sheltered within specially constructed firing recesses to prevent fouling by carbon deposit, the *bête noir* of electric firing. The commutator is placed in a glass faced circular dust-proof case on the dashboard, and is operated by a pitch chain from the cam-shaft. Tube ignition was Daimler's device and the company has remained faithful to it, but the increasing volume of opinion in favor of electric ignition has compelled them to fit it also, and the tubes are now really fitted to act as reserve in the event of electricity failing.

The cooling is effected by a radiator of special and compact design having liberal cooling surface in front, and a centrifugal pump in an easily accessible position driven by a friction wheel from the flywheel rim, which combine to cool and force circulation all round the cylinders, combustion chambers and exhaust valves.

From the crank shaft the power is carried by means of a single leather covered cone clutch of large diameter, fitting into a recess in the flywheel, through the clutch shaft to the change-speed gear. The clutch, which is supported by extra bearings, can be withdrawn by pedal, and it also withdraws automatically on the application of the brakes.

On the clutch shaft within the aluminum gear case are mounted the spur wheels of the change-speed gear. Of these there are four sets giving four speeds forward and one reverse. The spur wheels of hardened steel are carried on two short square sleeves mounted on a squared part of the clutch shaft, and become effective by sliding into mesh with corresponding wheels on a shaft above. On the second shaft is a bevel pinion which gears with bevel wheels fitted to a transverse countershaft, carrying a differential gear. This gear is remarkable for its compactness, the two short sleeves permitting the gearing to be placed in about half the length of case required when a single sleeve is used. All four forward speeds are operated by one lever, but a separate lever comes into use when it is desired to introduce the reverse pinion in the gear case. The gear case is air, dust, and oil proof, and, of course, the gearing is immersed in oil.

The Daimler Company are not believers in modifying speeds by variation of time of sparking, because "it is not an economical method of regulating the speed of the engine, for the reason that whether the engine be moving fast or slow it is drawing in its full charge of fuel; and moreover by the late firing of the charge, proper combustion is not effected, which results in the emission of a

malodorous exhaust" which is all very true, but it remains a fact that the method is more generally in use than any of the others. Variation between speeds is secured in two ways by throttling the charge and by controlling the exhaust. The first is effected by means of a throttle valve worked by a small handle on a quadrant attached to the steering pillar immediately below the wheel. The exhaust control, however, is operated in a much more complex fashion, and brings into use a most ingenious yet simple form of mechanism controlled by a modified Watt's governor. The governor is attached to the spur wheel on the cam-shaft, the shaft itself taking the place of the usual vertical stem, and the effect which is produced by gravitation on the revolving weights in the case of the vertical governor, is effected by spiral springs distended between them when revolving round the horizontal shaft. It is evident then that the extent of distension between the weights at any given speed must be regulated by the strength of the springs, or by any device which would interfere with their tension.

It has already been said that at the beginning of the second upward movement of the piston in each cycle the exhaust valve is opened mechanically to permit the exit of the burnt charge. This, however, is the case in normal running only, and is effected by a cam fixed to the half-speed shaft. This cam pushes upward a short vertical rod at the top of which is a step or notch in which, during normal running, the lower end of the valve stem sits. But when the speed increases beyond what may be considered desirable, the distension of the governor weights—which may be seen on the sectional view of the motor attached by right angled levers to the half speed spur wheel—force outwards two cams mounted on a sleeve sliding on the cam-shaft, and the first and smaller of these, engaging with a hammer fixed to one end of a shaft which carries a forked piece at its other extremity, forces the heads of the latter towards the cylinder and in doing so dislodges from its step the stem of the exhaust valve, so that when the normal cam comes round it lifts the short rod as usual, but the latter misses the valve stem and the valve remains closed. This action, however, does not affect the further valve stem, not shown in the sectional view, so that one exhaust valve continues to open regularly while the other remains closed.

Should the motor's speed continue to increase the larger cam is forced outward from the governor into engagement with the hammer, which stops the action of both valves. It is obvious that while the exhaust valves remain closed the burnt gases cannot escape; and no

further charge can be received until the valves reopen. This, of course, occurs when the engine has so far slackened speed as to allow the governor to bring back the cams, and thus clear them of the hammer. Should it be desired to retard or hasten the action of the governor, so that the governed speed be increased or diminished, it is effected by regulating the tension on the governor springs by means of a second small handle on a quadrant attached to the steering pillar. It will be seen from the foregoing that the car besides having a variety of speeds has also means of varying each to a considerable extent, and as the slowest is under ten miles an hour when modified, and the fastest not under fifty miles, it is clear that the range is also all that could be desired for any but racing purposes.

The power is carried to the rear wheels from the change speed gear by means of one and one-half inch pitch roller chains. These engage with small sprockets at the ends of the transverse counter-shafts, and with large ones on the rear wheel spokes.

In their steering gear the Daimler Company make no experiments. The Ackermann system operated by an enclosed worm and sector and a ball-joint coupling rod, actuated by a steering shaft set at an angle of twenty degrees from the vertical, is the method adopted. The steering wheel is of aluminum, with a hardwood rim.

It is perhaps unnecessary to mention that the wheels are artillery pattern. The day of the cycle wheel is over, and no car of value is fitted with it. The wheels are thirty-six inches in diameter with forged steel axle boxes, and thickened spokes to admit of the attachment of the driving sprockets. The tires are curiously enough not of Michelin make as might have been expected, when their popularity and well known good qualities are taken into account, but Goodyear's, a make comparatively unknown. It has been said, however, that these tires recently underwent certain extremely drastic—though somewhat mysterious—tests, and that they came through the trying ordeal triumphantly. The *Autocar* scribe who mentions these tests, states that he is not permitted to divulge their nature.

It is a little curious that the writer is in a similar predicament regarding the lubrication system of the King's car, he does not know anything about it, and the Daimler people only say that it is of special make. Until particulars are made public it cannot be seen. But here is a guess at it. It will probably be found that the system is of the sight feed variety attached to the dashboard, the supply



being maintained by pressure, with one pipe to each cylinder, one to each base chamber, and one to each of the principal bearings, all operated by one cock. Such is the system on Mr. Oliver Stanton's *Le Chat Noir*, a twenty-four horse-power Daimler, which so favorably impressed the King, that when he ordered his new car through Mr. Stanton, who acted as his adviser when making previous purchases of automobiles, he requested that a number of specially improved fittings of Mr. Stanton's own design on "*The Black Cat*" (it isn't so imposing in English somehow) should also be fitted to that in order for himself, and it is probable that the lubrication system is included among them.

The brakes are two in number one a double acting band brake which takes effect on a drum on the countershaft; the other the ordinary double acting sprocket brake. The band brake is operated by a pedal, and is cooled by opening a small cock on the dashboard which connects the drum with the warm water circulation. The sprocket brake is worked by a hand lever on the driver's right.

Other particulars may be summarized. The springs of grasshopper type are thirty-one inches by two inches in front and thirty-six inches by two inches behind. The wings, as the splashboards are now called, are of patent leather on forged steel frames. The petrol tank is of copper placed in the frame and is of sufficient capacity to carry petrol for running over one hundred miles. A good deal of aluminum is used in the car's construction for covers, cases, etc., phosphor bronze is used for the crank shaft bearings, while plastic metal forms the lining of the crank shaft, and connecting rod brasses.

The car on the whole is a very fine specimen of English design and workmanship, and follows generally on well tried lines. Automobile builders, not only in this country but in America, have been accused of testing new devices at the cost of their customers, just as a doctor will sometimes experiment with a new drug on his patients, but the monarch of all the Britains, whatever that may mean, is scarcely the buyer on whom a firm would desire to practice experiments; and every detail of the car, therefore, so far as the Daimler Company are responsible, has already been well tested. It should be added in justice to the Daimler Company, however, that such is their practice in all cases. No new device is used on a car for sale until it has been well tried, and every car is tested before being delivered to a customer.

Glasgow, April 7.

## A Fable

**T**HERE was once a pelican who had such a surplus of swell in his bill that it mounted to his head. He put on all the airs of a street piano and strutted like a statesman that had foresworn dress suits, or a salesman who had sold two automobiles on the same day.

"Dear me," he soliloquized, "my life is wasted here among these common birds whose bills are as thin as reception punch! I'll just go out into the great world and take the high place to which my big bill entitles me."

So away he flew and came in good time to a great city. Striking a pose in front of the leading automobile repairer's, he attitud-



Applying the Match that Makes it Move

inized with the grace of any pulpit orator, but failed to attract the slightest attention. A goat that was lurching off a bit of succulent tire nearby, gave the pelican a merry "Ha, ha!"

"You might make a hit at a wayback town, old chap," he remarked, "but big bills are common in this place."

Moral: Don't carry coals to Newcastle or expect a bearded lady to draw crowds in Kansas.

## Where They Were Going

THE atrium of the house of Vinculus was filled with cowering slaves. Vinculus, the young patrician, stood at the entrance to the court yard and glared at the host, upon whose faces fear held double sway.

"You tell him, Galba, old boy," whispered Sparkolensis, the smart Numidian, as he pushed the German into the middle of the ring.

"The way was dark," began the faithful Galba; "but, O master, we resisted well. We were bearing your fiancée, Lygia, and her chaperone, to a Welsh rarebit party in this princely house, as you did command, when we were waylaid by the Henry Sienkewicz Association, who bore her away."

The face of Vinculus turned ashen pale. Petrolonius, the most hardened man of the world in all Rome, a man who could eat three Welsh rarebits in succession, stepped forward to advise coolness and moderation. He was too late.

Vinculus tore a solar lamp from its fastenings and with one blow clove the skull of the German slave.

"Whips, whips," he cried, "bring lictors."

"Eheu! Eheu!" shrieked the slaves with one accord.

Their lips were white and their eyes seemed ready to burst from their sockets, for the fear of death was upon them.

"Tortures! tortures!" commanded the furious young patrician.

Over the tessellated floor of the atrium resounded the fall of martial feet, and the clank of arms and armor filled that ancient dwelling.

The cold perspiration of an awful terror spread over the set faces of that host of cravens.

Then came the lictors, swinging great thongs with balls of lead upon the ends. There was a creaking of iron and sounding brass. Through the marble archway fiends in human guise pushed along the instruments of torture. There were racks which caused muscles to snap and weights which were sufficient to crush the bones of a giant. There were even models of world beating vehicles which the inventors had sent to the noble Vinculus, hoping that he might act as the angel necessary to make them go.

"Not enough, not enough!"

It was the voice of Vinculus, choked with anger.

"Summon the charioteers," he cried.



Then there came a slave, whose ample girth was bound with a tunic of the finest leather, and upon whose face fierce eye pieces and a mask were set.

Vinculus bade him approach. A few minutes of whispered conversation followed, and then a fitful gleam came into the eye of the hot-headed young Roman.

"It is the limit!" he shrieked. "It is the limit!"

"Prosit," said Petrolonius, for he was always saying something or other which was elegant.

The sound of a horn rang through the streets, and with the whirl of machinery and a smell of gasolene which made even the gods turn pale, a conveyance stood before the doormat.

"Eheu! Eheu!"

The slaves were lifting up their voices in lamentation.

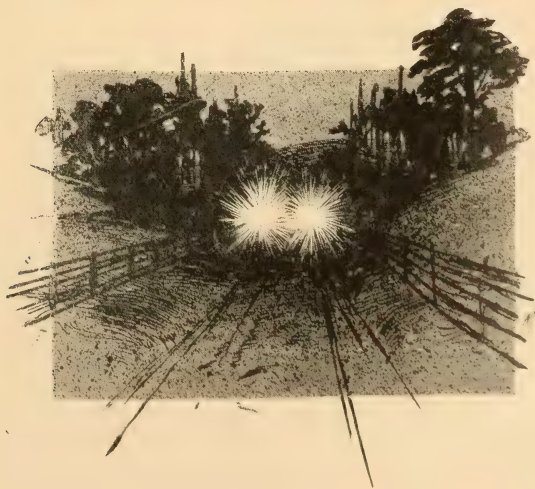
"There's room for all," cried Vinculus, and the exultation of cruelty was in his voice. "You, Sparkolensis, shall drive. You, Corry O'Lanus, shall wind the festive horn. This shall be a touring party. I do not begrudge the conveyance. Come, Petrolonius, we will follow in a runabout and see the destruction which shall fall on these, my faithless slaves."

"Where go they?" asked the hardened son of the world.

"I have commanded them to drive through the Appian way until they get to the grade crossing of the Alba Longa Railroad."

"Thank you," said Petrolonius, with a sarcastic smile. "I think our friend Nero can provide me with spectacles sufficiently lurid for my present needs."

Whereupon the master of elegance turned upon his heel and left the atrium.



## Opinions Differ Sometimes

**T**HIS is the verbatim report of an intensely interesting dialogue which took place between two guests at a recent dinner party. It began with soup.

"Yes," said one, "I consider a gasolene vehicle the only kind worth owning."

"Then you never owned a steam one," said the other.

"Indeed, I did; had a Blowmobile long enough to almost bankrupt me."

"You ought to have had a Boilermore like mine and then you never would have known what trouble was."

"Huh! I wouldn't give it house room. Why don't you trade it for an Oilymote?"

"An Oilymote? I wouldn't have one of those danger boxes around where I was. Besides, being otherwise no good, the Oilymote uses the Flimflam tire, and you know what that is."

"Yes, indeed I do. It's the best tire made. I wouldn't trade a Flimflam for a stack of Googoes."

"I don't use a Googoo, I use a Hewgog."

"A Hewgog? Ha, ha! That's the worst tire ever put on an automobile."

"Oh, is it?"

"That's what I said."

"Well, I'll tell you what you are. You are a word that rhymes with tire—that's what."

"And I tell you what you are. You are a word that rhymes with gas—that's what."

"Gentlemen! gentlemen!" cried the frightened hostess.

Then they glared at each other and proceeded with their dinners.

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## The Ideal Touring Ground

No wonder automobiling flourishes in France when both the roads and the people, and the very climate itself, seem banded together in its favor. Writing to the *AUTOMOBILE MAGAZINE*, a correspondent says: "All the roads in France are good; we have only once come upon a thoroughly unsuitable one. In consequence you drive right ahead in France, not caring where you land for the night, and get into old-world corners which would be almost inaccessible otherwise. Then the hotels are without exception good; they are invariably clean, and one can always get a decent meal in them. And they are usually cheap."

## A Corner of the Future

**T**HE year is 1940.

The haughty agriculturist of the tropics looked contemptuously at the man who groveled at his feet.

"Naw!" he exclaimed, with scorn. "I won't."

"You will not take \$10,000,000 for it?" tremblingly asked the man who groveled.

"Naw!" contemptuously repeated the haughty agriculturist.

"My price is \$50,000,000."

"Make it \$20,000,000!" pleaded the other.

"You weary me."

"Say \$35,000,000."

"I think I told you," said the agriculturist, with a yawn, "that it would cost you exactly \$50,000,000—no more and no less. I wouldn't sell for \$49,999,999.99."

"But think," implored the other, "what an immense sum \$45,000,000 would be! I am authorized to go as high as that—\$45,000,000 in cash!"

"You are authorized to go as high as I ask. You know you are. And you'll pay me my price. What's the use of your wasting any more time? You'll pay me \$50,000,000, cash down, or you don't get it. See?"

With a heartbreaking sigh the man who had been groveling rose to his feet, made out a check for the required sum and handed it over.

He was the agent of an automobile tire syndicate.

And he had just bought the last rubber tree on the globe.

---

If wishes were horses beggars would want to ride in automobiles.



The Old and the New—Automobiles at Stonehenge



## All the Comforts of a Kitchen

UNTIL such time as the much wished for "country inn" shall have made its appearance here and taken up a permanent place among the joys of touring, perhaps the American automobilist who objects to a steady diet of fried ham, chicory coffee and stale beer, will most surely save his digestive apparatus and add to his comfort by acting as his own caterer. To aid him in doing this the touring basket has been placed upon the market and may therefore be considered worth the price asked for it—\$34. Deftly and solidly packed in the basket is a plated ware and china service for four persons. Two big flasks, to fill and to empty at pleasure; a third for alcohol to feed the lamp which boils the water in the kettle. Four tin cases for provisions, according to choice, and there you are—well equipped for a wayside refreshment of no mean order, secure against starvation in case of a breakdown and free to wiggle at the ham fryer and his kind the fingers of scorn on the nose of independence.

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### English as She's Motored

It is little wonder that foreigners despair of learning to speak our language. One of the greatest difficulties is the way in which the same syllabic sounds have often very different meanings.

"You'll get run in," said the pedestrian to the automobilist without a light on his vehicle.

"You'll get run into," responded the autoist, as he pushed the starting lever hard over, knocked the other down and ran up his spine.

"You'll get run in, too," said the policeman, as he stepped from behind a tree and grabbed the reckless driver before he could get away.

Just then another scorcher came along without his initials on his vehicle, so the policeman had to run in two.

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### Toys

A small red wagon is the toy  
Which much delights the little boy,  
He gets, when he becomes a man,  
A big red auto if he can.  
And boy or man, or man or boy,  
He's chasing still some pretty toy.

## When the Morn is Young

ROBERT PRESTON PASSMORE

The very "smell" of morning seems to float  
Across the land from eastward, where the sun  
Comes, bringing day again. The woodbird's throat  
Voices anew the song that's never done.  
The flash of apple blooms is everywhere,  
And fluttering from the overburdened trees  
The sprays of white drift gently downward, where  
They are immune from the disturbing breeze.

The purple lilac and the lilac's scent  
Fill all the waking world with mild delight.  
The odor is inseparably blent  
With languid, lazy blooms that soothe the sight.  
A strutting peacock from some nearby farm  
Disdainfully surveys the matron hen  
And shrieks his noisy and high-keyed alarm,  
And proudly spreads his brilliant tail again.

Like soft notes from some instrument of wood  
Is heard the barking of a distant dog—  
A garter snake scurries across the road  
And seeks the refuge of a wayside log.  
The calm, benignant statues of the cows  
Stand in the grassy fields beside the way;  
A plowing farmer's imprecations rouse  
New echoes in the lazy, listless day.

A long, straight line of level country road  
Tunnels beneath the boughs that greenly arch—  
Such scenes as this I dare swear Moses showed  
His band when Canaan closed their weary march.  
Perhaps now you can understand why I,  
Gray-bearded, bald and patriarchal, feel  
Impelled at morn, my youth renewed, to fly  
Along rural roads in an automobile.

---

He scorched along the boulevard;  
He scorched adown the hill;  
He scorched into a cable car;  
We think he's scorching still.

## What "Tipping" Costs

**H**E came from one of those small "cities" with which the Middle West is so plentifully provided. His host wished to show him just what a great place the metropolis was, so he ordered out his new touring car and took him a rush "up the road."

After the novelty of being carried along at a gait which made the best speed of his pet trotter at home seem almost like a stand-still performance, the visitor became thoughtful and preoccupied. He had the air of one doing problems in mental arithmetic.

"I could rent a house, heat it, and light it on it," he finally said, speaking as to himself. "On what?" asked the city man. "On the 'chicken feed' you have sown through that park this afternoon—that is, I could if you did it every day in the year, and to-day's quantity may be taken as an average." "Must give away houses out where you live," said the city man. "How could you do it?"

"I have kept an itemized account of the money that, to me, you have thrown away since we left the storage place," said the Westerner. "First there was twenty-five cents to the stableman at the first place we stopped, twenty-five cents to the waiter, fifteen cents for a drink for your friend's—what do you call him—'shofer?' About a half-mile further on the performance was repeated, with the exception that instead of the 'shover' you bought the policeman a drink.

"Up at that hotel overlooking the river you did the same thing, only the leader of the band got a quarter instead of the policeman's fifteen cents. Then we stopped at two more places, and at both of them it was the old story. The total amount is \$3.35 for the day, or \$1,217.60 a year.

"In my town of 25,000 inhabitants I can get the best house that is to be had for \$750, and I can light it and heat it and have enough left from the \$1,217.60 to give my hired man a tip that to him would seem princely. Maybe these automobiles are better than horses, but if it cost me as much to run one as it seems to cost you, I'm blamed if I wouldn't rather walk."

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### Poor Rule, Won't Work Both Ways

"So you think it absolutely necessary to have automobile shoes when you drive a motor vehicle, eh?"

"Why, of course, I do!"

"Then, would you wear horseshoes when you drive a horse?"



## A Defense of the Tailor

By J. W. LOVEGROVE

**D**ESPITE the fact that a recent writer in the *AUTOMOBILE MAGAZINE* took occasion to remark that the British tailor had for once utterly failed to produce a suitable sporting garment, and that in consequence of this failure the user of an automobile was condemned to wear clothing which was both uncomfortable as well as unbecoming, I am inclined to believe that the writer in question was not as well posted regarding the British garment maker



as he might be.  
was in error in

to call your attention to the Ideal coat which I have the honor not only to have designed, but to have been awarded the first prize for by a jury of my peers, i. e., the annual show of the British tailors.

I do not think the pictures need any story from me to point out the advantages as well as the taking appearance of the new garment. In the case pictures speak plainer than words. I may, perhaps, be pardoned if I call attention to the roominess of the coat in the skirt, which has been provided for so that the wearer is placed at no disadvantage when walking. Under such conditions the coat will not catch upon the legs or knees as too many driving

To prove that he  
this matter I wish

coats do. While the coat is specially designed for wear in motor-ing it can be worn as an ordinary overgarment without attracting any but favorable attention. The sleeves have the old fashioned spoon cuffs which, when buttoned in, are perfectly smooth on the inside and not gathered together as is the case with ordinary coats. When seated in a vehicle the coat falls naturally around the legs of the wearer, covering them without any attention on his part, while at the same time allowing him perfect freedom should quick action become necessary.

I have, perhaps, made my defense of the British sporting garment maker more of an argument for my own contribution to the automobilist's comfort than I had intended, but I consider the illustration I have used as only a fair sample of what the British tailor has done and can do for the automobilist.

While I do not desire to pose as the final arbiter of what constitutes the correct costuming of an automobilist I am well within reason when I say that neither English men nor English women have anything to learn from foreign tailors when it comes to the procuring of automobile costumes in which sightliness has not been sacrificed to utility. It is to correct an entirely too prevalent opinion to the contrary that I have ventured to defend my colleagues and myself against such unthinking accusations as those I have referred to which were the immediate cause of this protest being written.

Picadilly, W. London.

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### To My Automobile

Dear other self, so silent, swift, and sure,  
My dumb companion of delightful days,  
Might fairy fingers from thy orbit rays  
Of steel strike music, as the gods of yore  
From reed or shell; what melodies would pour  
On my glad ears; what songs of woodland ways,  
Of summer's wealth of corn, or the sweet lays  
Of April's budding green; while evermore  
We twain, one living thing, flash like the light  
Down the long tracks that stretch from sky to sky.  
Thou hast thy music too; what time the noon  
Beats sultry on broad roads, when, gathering night,  
We drink the keen-edged air; or, darkling, fly  
Twixt tree trunks blackened by a mystic moon.

# Motor Farm-Truck Deliveries

BY GEORGE E. WALSH



FIGURE out the opportunities of simplifying the present unsatisfactory question of delivering farm products to city markets by means of auto-trucks built specially for the purpose and you will see that they are so great that it is quite natural that a number of experimental tests in that direction should already have been made. The Department of Agriculture in particular has had in view for some time tests of this nature, for in investigating the subject of truck farming the perplexing question of cheap and prompt transportation facilities always proved a stumbling

block around which it seemed impossible to get.

Truck farming to-day near the large cities is limited in area so that our choicest perishable fruits and vegetables are raised on farming land valued at several hundred dollars per acre. So expensive is this land that farmers must be able to raise two and three, and even four, crops of produce from the land in one season.

The capital required to operate such a city truck garden is quite considerable, but in spite of the high prices obtained for the produce the farmers find less profit than before, and they are being pushed further and further from their markets. In the past these truck gardeners have kept within a distance from their market, which would enable them to drive in with their trucks over night and sell their goods the following morning. Where the perishable products must be intrusted to the care of the railroad companies loss through injury, delay and high cost of transportation have made the business largely unprofitable.

The most important question of the day in farming is to find some means of quick and efficient transportation for the perishable products of the truck farms to the city markets. In some New England localities the trolley lines have partly solved this problem. They have secured in their charter transportation privileges which



enable them to run freight cars at certain hours of the day and night. By tapping rich agricultural regions they have in this way benefited the farmers by carrying their perishable goods promptly and cheaply directly to the city markets without change. But even in these cases there is always the necessity of double loading and unloading, which consumes time and expense.

The Department of Agriculture has recommended the use of independent auto-trucks which could load up at the farms and run direct to the city markets and unload without any intermediate handling of the goods. This would place the articles in the market in much better condition than when handled several times. These auto-trucks would have to be built of sufficient size to carry several tons of fruits and vegetables in each trip. They should be operated by individual farmers, or by several in one neighborhood co-operating together. The initial cost of such a truck would be from two to three thousand dollars, and this expense would deter most farmers from undertaking the enterprise until it had been demonstrated to be feasible.

The Department of Agriculture draws some of its data and conclusions from the experiments made by the Post Office Department in rural mail collecting and delivery by means of automobile wagons built for this purpose. These postal automobiles have demonstrated that in thickly populated sections of the country where the roads are good they will prove a paying investment. So far the experiments have been eminently satisfactory, and it is likely that in the near future a considerable number of these vehicles will be in operation by the Post Office Department to facilitate the delivery and collection of mail matter.

In both cases, however, the condition of the country and rural roads must be a somewhat deciding factor. Unless the roads are passable at all seasons of the year it would be impossible for either the postal or truck motor vehicles to prove a very profitable investment. But there are many parts of Long Island, New Jersey and Massachusetts where the country roads are good enough for such experimental work during most of the year.

It is estimated that under adequate auto-truck delivery methods our farm produce of a perishable nature could be brought daily from points fifty and sixty miles away, where to-day it must come from a distance no greater than ten and fifteen miles. The latter distance is almost as great, as it pays the truck farmers to drive

into the city every day and back the next for another load. The truck gardeners who live much further out must depend upon boat or railroad transportation, and this has proved unsatisfactory because of the delays, injury to the goods and high cost of freight and handling. Where perishable goods have to be loaded on the farm wagons and carried to the nearest railroad station, where they are loaded on the cars and then unloaded in the city to other wagons and carted across town to unload at the market, there is always bound to be excessive charges for handling and great loss through breakage. The only satisfactory method of transporting such goods is to make one loading and unloading answer for the whole trip. This can be accomplished only through individual auto-trucks which could visit the different farms and take up daily the produce prepared for them.

The method generally recommended by those who have investigated the subject is either for the truck farmers of one place to co-operate in running one or two auto-trucks, dividing the initial cost among themselves and operating them for mutual benefit. A single large auto-truck carrying four or five tons could accommodate two or three truck gardeners, and the trip to the city and back again could be made without difficulty each day. The delivery of fresh goods in this way would place them far ahead of those handled through the several agencies mentioned. It would enable farmers distant forty and fifty miles from the city markets to compete openly and freely with those located within five or ten miles. The land of the farmers would be so much cheaper that it would more than pay them to enter into truck gardening for the purpose of sending fresh supplies of perishable goods direct to the city every day. There would be certain seasons of the year when the auto-trucks would not need to run oftener than once or twice a week, but the cost of keeping them would amount to nothing except for the small rate of interest on the first investment. This, compared with the cost of feeding and keeping truck horses, would be almost infinitesimal.

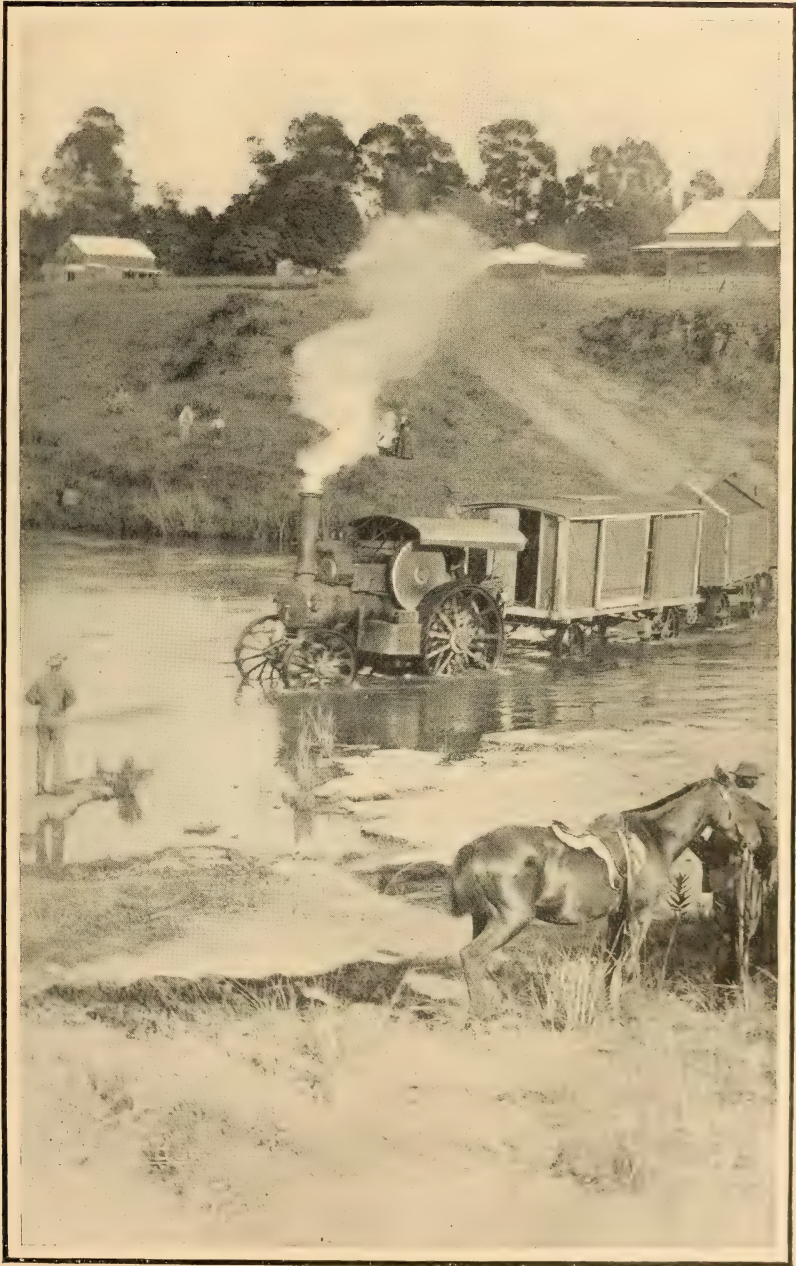
Under present conditions truck gardeners near the cities find that their land is so valuable, and the demand for fresh produce increasing so that many are covering their farms with glass so extra crops can be raised thereon. It costs more to cover an acre of land with glass-sash than two or three auto-trucks would amount to, and yet farmers are so sure of the profits in this business that

they are gradually increasing their expenses in this way. The demand for fine, fresh truck produce is so steadily increasing that the supply will never be equal to it. Already all the available land within a radius of ten miles of our large city markets has been taken up by market gardeners, and some of it devoted to this work is even beyond the actual range of the so-called profitable zone. Some of this truck land near the cities pays the owners better than if houses and stores were erected thereon. One enterprising business truck gardener has even threatened to tear down some old houses on his land right near Brooklyn Bridge to erect in their place greenhouses and gardens in order to obtain better returns.

The possibilities in this direction are so remarkable that the question is being carefully studied from all sides, and within the next few years there will unquestionably be introduced new systems of transportation connecting the distant suburbs with the city markets by means of individual vehicles of some kind. Like the whaleback grain carriers of the lakes, the auto-trucks which can load up and deliver the goods directly to the market without breaking bulk will have an immeasurably superior advantage over all others. This system has been tried both in London and in this country on a small scale, and there is every reason to suppose that it will soon solve the problem which to-day is urgently pressing for a solution of some practical nature.







Military Motor Train in South Africa Crossing a Sprut.

## Monkeys Object to Automobiles

**T**HE longest macadamized road in the world is said to be from Calcutta to Lahore, India. It is about 1,700 miles in length, varies from forty to fifteen feet wide and is kept in excellent repair by the government of India. There are great stretches of forest along the route which contain all sorts of wild animals, monkeys being found everywhere.

Monkeys are very social animals and take a great deal of active interest in what man, their powerful brother, is doing. The monkeys are intensely conservative and raise practical objections when men introduce any new improvement.

Monkeys do not like things they have not been accustomed to and they displayed vicious hostility to bicycles when that form of vehicle first appeared on the Calcutta-Lahore highway. They objected to anything that went faster than the ancient ox-cart and especially to anything that could go faster than they could.

They manifested their hostility to the bicycle by collecting stones and nuts and throwing them at the bicycle riders. Their aim was generally so good that there was for a time danger that they would drive bicycles off the road. They were very much like dogs, however, and gradually became accustomed to bicycles and accepted them as an established institution.

Now the automobile is beginning to appear on this great highway and the monkeys are showing the same practical objection that they did to the bicycle. They act as dogs in other parts of the world act against a new thing, but fortunately, dogs do not throw stones or cocoanuts.

Some of the automobilists in India have arrived at stopping places with badly bruised heads. The local authorities would like to protect the automobilists, but they cannot kill all the monkeys, so there seems to be no recourse but to wait until the animals become accustomed to the automobile.

### Left at the post

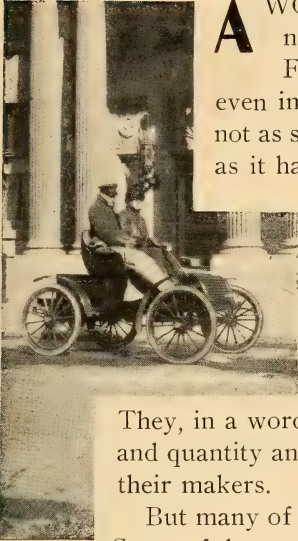


"What's the matter, Horseleigh?"

"Just my luck! Here I am down for the week end with only my riding togs and nothing here but automobiles."

# Ideal Automobile Nomenclature

BY FRANCIS P. PRIAL



**A** WORD or two on automobile names, on ideal nomenclature, on the suitable, the proper. For there is a sweet propriety in all things, even in a name. A rose by any other name was not as sweet. To automobile nomenclature, so far as it has gone, no very great attention has as yet been given, though one or two makers have already hit the mark. The names of these lucky, or thoughtful, or ingenious few have selected are smooth in the mouth. They have harmony, melody, and, in some cases, are full of meaning, are replete with specific application.

They, in a word, indicate and intimate the aim, and hope, and quantity and quality of the machines as conceived by their makers.

But many of the names thus far selected are not happy. Some of them are short, crisp, sharp, snappy. The name is pronounced, but so soon is it done, finished ere hardly begun, that you do not grasp it; or if you have hazily caught at it, the memory does not long remain with you. Other names, unmentionable here, of course, through simple courtesy, are execrable, meaningless or obviously absurd. May the owners of all such awake to salvation.

The name of an automobile, speaking largely for vehicles such as are commonly and leisurely used, and leaving out of account the sheer vehicle of commerce—the drayman, the dragoman, as it were—should and may easily have a certain distinctive and distinguishing quality. The ideal name is one which, without respect to its origin and derivation may, by reason of the superlative worth of the vehicle itself, aided by wise and generous publicity, become universal.

Thus we have a Columbia, a Steinway, a Pear's and the like. The first is broadly patriotic, and is graspable by the many and by the few. Steinway, which happens to be the maker's name, is resounding, resonant, and thus runs happily with the thing named, the piano. Pears, a soap. The pear is clean, sweet and fruity, that is the Pear idea and it is nicely, valuable and cleanly applied.

Failing to hit upon a name which has, in its very inception, the



elements of wide popularization, a second choice is to use a name which will at once convey the specific quality of the thing named. This form gives direct identification and description, all in a word. Failing in the first two, the third essay should be the use of the maker's or inventor's name, providing such name be sonorous, musical, and not brusque, sharp, unhappy, discordant.

Jones or Brown, or kindred names would not be well. These first named are already staggering under sufficient notoriety, there being a popular fallacy that the Brown-Jones families are endless, and that there is an elegant sufficiency of them. But Holland, or Ericsson, or Edison, or Bell, names such as these will do. You hear little of the great Morse, while Edison is of world-wide usage. And what more applicable to the telephone than Bell.

The classes of name outlined, indicated and hinted at above seem to rank in order of value, though it must be always remembered that the accident or inspiration which gives birth to a super-excellent, wonderful name is indeed happy and is best of all.

But the average man has neither the time, or perhaps not the talent to give to the selection of an appropriate name. Rather will he, for time-salvage, rush readily into the general field of nomenclature, hence these few ideas and suggestions may be of service to him. The motor vehicle, barring the business conveyance, being used for leisure, pleasure, recreation and as an instrument of outdoorism, lends itself readily to a class of names in which nature-suggestion plays a large part. The woods, for instance, how much do they suggest; the river, the spring, the wind, the sea—all these are fruitful of names that may be most happily applied to automobiles.

For example, take the woods, and see how readily we have from them names like these: Brightwood, Highwood, Norwood, Bellwood, Mistlewood, Deepwood, Wildwood, Wedgewood, Glenwood, Longwood, Ringwood, Inwood, Kingwood, Hollywood.

Or go to nature and evolve Bellmont, Hilldale, Orient, Brookfield, Summit, Stormking, Windermere, Hillcrest, Longmeadow, Hillside, Hilldale, Whirlwind, Glendale, Wayside, Ingleside, Meteor.

Royalty and victorship will give you Conqueror, Empress, The Royal, Victory, Invader, Director, The Tsar, Tewkesbury, Coronado, Kingman, Coronet, Kingston, Hanover.

If you like none of the foregoing, perhaps one of these will do: Normond, after Ormonde, the great thoroughbred; Isola, the

gypsy, the wanderer, the Queen; Montauk, sharp, musical, Indian; Franklin, always good; Wayward, an odd conceit, kittenish, suitable for a miniature, a sort of boy-pleasing name; Tournament, shades of Arthur's Knights; Eaglet, for a small type; Petrel, the storm-bird; Penguin; Flyalong; Flyabout, suitable for a semi-commercial utility carriage; Mystic; Burlingame, this is stately and has solidity and the roll; Pilgrim; Traveler; and last Autaway or Autoway.

### A Cowboy Query



These autos I hears so much about are  
kinder puzzlin' me,  
An' jest the game we're comin' to I can't  
exactly see;

They tells us that the hoss is now just  
fit to kill and eat,

An' that he must be reckoned as a hunk  
of toothsome meat.

The motor, they tells us, is the thing  
we'll use to cover ground;

It's better than the finest hoss for one who's movin' 'round;

It's cheaper an' it's faster, too—or so I've heard 'em say—

For it can live on oil alone, discardin' oats and hay.

But I've some doubts about this thing, an' don't exactly see

Jest how this new machinery deal' kin fill the bill for me.

I may be wrong in this, of course, but still I kinder feel

I'd like to see some feller throw a lariat from off an automobile.

### The Ruling Passion

"I hope," said the minister, soothingly, "that you are quite reconciled to the future, my friend?" "Yes," said the scorcher who had only his own recklessness to blame for having run into a big beer wagon with disastrous results to himself; "I think I could die happy if it wasn't for one thing."

"And what is that?"

"I can't help wondering how much faster they will build automobiles to go after I am dead."

# Out of the Ordinary

By JAMES DANCEFORD



HILE there are a number of new designed vehicles on the market this season, and many which show improvements in minor ways, there are several vehicles which may be called innovations, even if they are not absolutely hot off the griddle. The Fischer Motor Vehicle Company use a combination of gasoline, engine, dynamo, storage

battery and electric motor. The first link of this chain is a three-cylindere, twelve horse power motor. Then comes a seven kilowatt dynamo; fifty chloride cells of 125 ampere hours capacity and last, though not least by a long way, a pair of six horse power electric motors.

The steam division of the procession is prolific in new designs with a decided tendency toward touring models, most of which have front seats on the "now you see it and now you don't" order. Some of these are on the De Dion vis-a-vis order, while more have the front fold-up-able seat facing the direction in which the vehicle runs, as it should. The first of this type I ever saw was the "Scarritt" type of De Dion and to-day it is the best of the convertibles I know of.

No one enjoys a ride backward on a front seat, though it isn't half bad on a dos-a-dos. I imagine the reason for this is that when you're in front, you are kept guessing as what is ahead and when you're going to hit it. On a dos-a-dos its the other fellow who will get hit first and so you don't worry. This kind of convertible is also being adopted by numerous gasoline vehicle builders and seems to be popular. There is also a style of surrey with a dos-a-dos on behind.

Three at least of the steamers have tonneau-typed touring cars and all are substantial vehicles if appearances count. One has followed the French gasoline type so closely that all the machinery, boiler engine and their appurtenances are up in front under the bonnet. And not content even with this, they have gone further and



use a clutch, change gears and the whole paraphernalia of a French gasolene car. Of course everyone will criticise the alleged complication and lack of flexibility which is the main claim of the steam engine, but I'm glad to see this breaking away from tradition just the same.

As a matter of fact I believe the builder referred to is on the right track for a heavy vehicle. I'd follow his ideas every time if I were building a steam truck or dray. Cause why? Well, to begin with, your steam engine at starting with a heavy load is in its weakest condition. All you have is steam pressure and cylinder area, but not a bit of piston speed to help you out on your horse power and that depends on all three.

With your engine independent you can run it up to a fair speed, work in your clutch gradually and you're off before you know it. And this isn't all, either. There's a "best" speed for any engine to run, whether it is a steam or a gasolene one, and the clutch and change gears give you an opportunity of doing this. Of course there's a difference in change gears and on them depend much of the efficiency of your vehicle as a whole, but the best gears have very few objectionable features. This steam change is the most marked departure that I can see in the entire 1902 line, and so radical is it that it will be watched with considerable interest by many—purchasers and manufacturers alike.



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Club rooms will soon be filled with the winners of rumored races.

# Note Book of the New York-Albany Tour

BY ROBERT BRUCE

**F**ROM the time that you cross Central Bridge over the Harlem until you go over South Bridge from Rensselaer into the Capital City, the locomotive whistle is frequently heard. First (and largely throughout) it is, of course, the main line of the New York Central, whose trains go past at short intervals on their race to the North and South.

The automobilist—particularly the driver of a speed machine—cannot easily avoid comparing himself in a way with the locomotive engineer. Both are masters of highly efficient mechanisms of transportation. The one is built for speed and power combined, for everyday service, regardless of times and seasons. It is run on carefully arranged schedules and follows the same track—up and down—for the whole period of its service. The other goes out at the will and pleasure of its owner and driver, wherever passable roads prepare the way. Any sort of fixed schedule would destroy the pleasure of its possession and use. They are not now and never can be rivals. The locomotive is champion of the rail, and the automobile of the road. And I have gained the idea somehow that the man in the cab would like now and then to change places with the man in the motor vehicle, and vice versa.

As you look back upon the long (and apparently very frail) Poughkeepsie Bridge, from a certain point on the way to Hyde Park, next above, the river itself is entirely below the level your eye commands. The bridge seems, instead of spanning one deep and wide chasm, to be carried along from one point to another on the opposite side of the river, like a great railway trestle built over the unevenness of the waters. It is an optical illusion well worth the noticing.

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Most of the people you meet in the course of this trip have come to appreciate the automobile as a powerful factor in the building and maintenance of good roads. No farmer or back-country legislator, for instance, can fail to note the far-reaching benefits of such an improvement as the near-to-level highway now building around Nelson Hill—a work that will better the trip for all types of vehicles. By ordinary means, this improvement would not be brought about for years—and then at large public expense. Now it is coming rapidly to completion, and the class of residents above

and below who can afford it are paying the cost out of their own pockets, practically presenting their investment to the county and State. I venture to say that out of every five contributors to this fund, three were bicyclists before they were automobilists, and the other two are owners of fine carriages and good road horses. Public spirit exhibited in this way and manner makes for progress and good feeling alike.

Local conceptions of road-making methods are, however, beyond the understanding of the average man from the city. Especially where the character of the soil lends itself easily to handling (the joy of those who "work out" their assessments), "repairing" is a process we prefer to have follow our trip rather than precede it. The usual rustic method of accomplishing this work is by throwing the side-scrappings into the middle of the road which, of course, is destructive to good going for many days to come. Meanwhile it is a comfort to know that the cash system of road-making and maintenance under competent management is progressing throughout the State.

The automobile is also a source of considerable revenue to the districts its devotees find suited to their purposes—another factor with its due influence upon the local viewpoint. You will realize this most acutely if your machine needs towing up a necessary hill, and you are obliged to arrange with a local teamster for the extra power. He will very likely "size you up" in a way to put the country repairman to blush. But there is another side to it: when you are off main roads, perhaps on unaccustomed routes, you can feel quite sure of securing such information (and in case of need such help) as is necessary to your purpose. The bother of it does not figure in such a situation. This reliance is of large import when one makes an unexpected detour and must depend upon what he finds out after starting to bring him through.

\* \* \*

F. W. Vanderbilt's country place immediately above Hyde Park, on the road toward Staatsburg, looks from the road like one of the less-frequented sections of a great city park, and shows the sort of improvement that will come sooner or later to all the well-situated country on the Hudson river front.

Conspicuously displayed at the main entrance, is a sign to the effect that *bicycles* will not be admitted. No such prohibition applies to automobiles, however, as was the case at "Sunnyside," on the



way from Irvington to Tarrytown. It goes to show the difference in feeling toward the automobile between the controlling factors of a semi-public spot like the home of Irving, and a well-ordered country seat of to-day. At the latter, automobile accommodations are much more apt to be present than absent.

\* \* \*

It does not seem probable that the imprint of former methods of travel will ever wear off the East-Hudson district. While the main road up and down has been swept clear of all regular stage-coach lines, there are many otherwise unconnected points where no more modern transit has yet come to take its place. The trolley has made little or no headway into the river towns, even the Hudson-Albany cars going at once inland and keeping back in the country until the very end. That this is so is very likely due not more to the expensive construction the grades from the water front would entail, than to the meager facilities for crossing the upper portion of the river. Hence, for the space of about thirty miles, the Hudson is more like an international boundary than a stream separating two like portions of the same State.

For short trips up from the river to inland points, the stage-coach does now practically what it did two generations ago; and fancy is not inconvenienced in making out that some of these vehicles of to-day are their prototypes of the Revolutionary period, mended or rebuilt part by part, until the original shape only remains. And there are good blacksmiths and wheelwrights on the way to Albany, as many an unfortunate automobilist has found out to his passing advantage. In and out of Rhinebeck stages run to meet all trains at Rhinecliff, and from Red Hook next above to Barrytown, its nearest railroad station. At some other points you come across them, and as you note their slow, power-wasting progress, the idea that some of them—if not all—could profitably be displaced by motor omnibuses, comes into mind. I wonder if any of our progressive automobile builders have ever considered this special problem? If not, there may be an opportunity to work out some very interesting results for the industry on the upper Hudson. But should the stages go, some of the old-time taverns would remain as reminders of less strenuous times than ours.

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There are many who by their own admission are fitted to adorn great stations in automobiling; but few, indeed, are they who are so conceited as to think they can worthily fill little ones.

# How Acetylene Was Found

By ROSCOE S. DENTON

**T**O the owner of an automobile the acetylene lamp which adds so much to his comfort and his safety, is so old a story that it hardly seems possible to him that it was a thing impossible less than a decade ago. The facts relating to the discovery of acetylene gas are interesting.

Some years ago, a Canadian, Thomas L. Wilson, was smelting for metallurgical purposes. From time to time he used a good deal of rock salt in his furnace stock, and also limestone as a flux. Whenever these two materials were fused together, the slag produced by the intense electrical heat included a dirty grayish substance wholly unlike anything else he had ever seen.

For weeks he noticed this substance without giving more than passing attention to it, dumping it into the stream upon the bank of which he had built his furnace.

One day a curious thing occurred, and at a time when the pile of slag had become so large that its top rose above the surface of the water. A minute or two after dumping the slag as usual into the stream, some of it going under and a part of it remaining above the water in a red hot state, the sizzling and steaming was followed by a bright burst of flame.

The next time Mr. Wilson used rock salt and limestone the blaze again appeared over the slag after it had been cast into the river, and, it being at night, he was much struck by the brilliant white light produced.

On the first occasion thereafter when he had a batch of the queer grayish residue to dispose of he did not waste it, but saved it and poured over it some water for experiment. To his surprise there was no flame, but after puzzling awhile over this feature, he held a lighted match over the pile, when instantly there was a white, glowing flame, and Wilson knew that he had found something worth while. His discovery was acetylene gas, and the automobilist is not the only man who is deeply indebted to him for having made it.

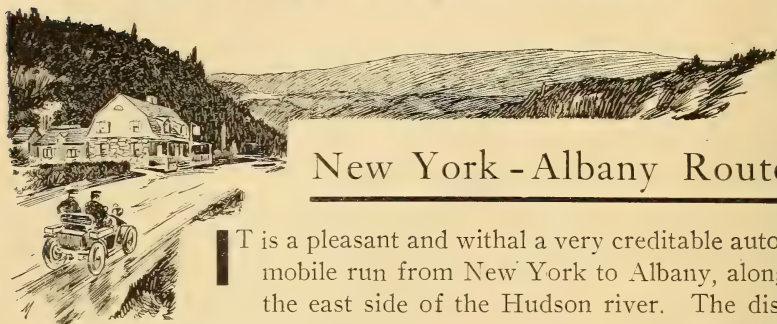
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## Possessed of a Prejudice

"In Paris there's an automobile to every 1,460 persons."

"That's all right, any kind of a scorcher can easily run over that number of people."

# Touring Department



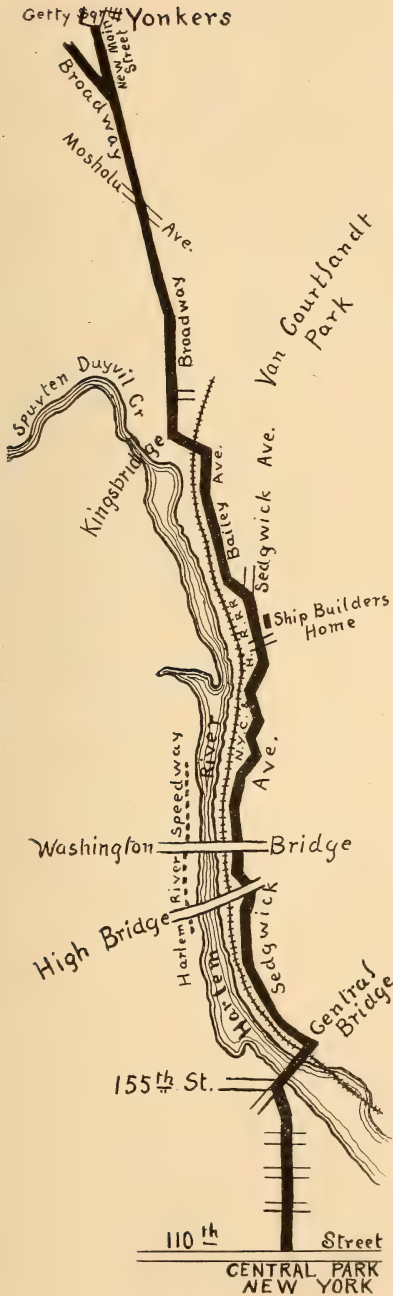
## New York - Albany Route

**I**T is a pleasant and withal a very creditable automobile run from New York to Albany, along the east side of the Hudson river. The distance of 160 miles, more or less, divides almost equally at Poughkeepsie, the largest city on the line, with first-class accommodations for men and machines. Given three days out, with overnight control at Fishkill Village and Rhinebeck (less desirable but comfortable stopping places), and the (a) Lower, (b) Middle and (c) Upper Hudson districts, may be taken with practically uniform calculations in time and mileage. As a possible alternative to either, more time may be spent in sightseeing from the Harlem River to Ossining, making Peekskill for the first night. In this case, the balance of the trip (relatively less interesting historically), will divide into two longer average runs, the second overnight stop to be determined more by circumstances than by direction. One or another of these schedules will suit most end-to-end tours. Speed trials are a law unto themselves, and side-trips matters of separate allowance anyhow.

The roads are principally of common dirt and macadam, with occasional stretches of gravel, sand, clay and rock, averaging good from mid-April to November. Earlier or later, some portions are likely to be difficult or impossible to cover. For most of the way wide enough for two or three to ride safely abreast, there is now and then a narrow section where one will find it decidedly inconvenient to give half of the road to passing traffic. Grades vary from the stiff climbs and steep descents above Peekskill (where one must take his chances with fate), to the easiest of going between Poughkeepsie and Hyde Park.

Automobile supply and repair stations are frequent, the hotels and roadhouses fair, and both local and long-distance telephone service never far away. Sign boards, while numerous, are not yet of a regularly complete order, compelling one to keep his own look-





out, practically from beginning to end. The bridges along the way (and they are many), are perfectly safe for one-at-a-time of any weight of machine, but caution in crossing the wooden ones should at all time be observed.

The route itself is in great part the old Albany post-road, of more relative importance a hundred years ago (when it divided the honor of travel only with the river), than now. But the building of the railroad to the North and West made the horse-drawn coach service unprofitable for long up-and-down trips. Of the old-time taverns, many have altogether disappeared, or been turned to other purposes; but some of them have survived, and are now entertaining automobilists as they did the less-fortunately mounted travelers of long ago.

#### FROM THE CITY INTO THE SUBURBS.

From the center of Manhattan, one has the choice of either the East or West driveway through the whole length of Central Park (whose upper boundary is One Hundredth and Tenth street), coming out at either (a) Seventh, or (b) Lenox avenue. In the former case (a), continue direct on Seventh avenue to the new Central Bridge (otherwise known as McComb's Dam

Bridge), over the Harlem river at One Hundred and Fifty-fifth street. In the latter case (b), turn one block west from Lenox to Seventh avenue anywhere up to or on One Hundred and Forty-fifth street (no opportunity to cross above), and on as before to Central Bridge. Its long approaches reach far outward, and you take their upgrade after a short turn to the left at One Hundred and Fifty-third street.

Instead of keeping this bridge to the end, take the branch exit to the left, passing straight over into Sedgwick avenue. This (the left-hand one of the roadways in sight, and the least inviting of them), at first winds through a raggedly settled district and then goes under High Bridge and Washington Bridge, near to the railroad tracks and directly opposite the Harlem River Speedway. Morris Heights, the new site of the College of the City of New York, is immediately beyond, then Fordham Heights. If by chance one has made an unconscious turn to the left and finds himself on Cedar avenue, he will simply go a short distance nearer the river than he otherwise would, and come out on Sedgwick avenue again all right.

The first deliberate turn after crossing the Harlem is to the left, onto Bailey avenue, at Webb's Academy and Shipbuilders' Home. This building, on the right hand side—just beyond Fordham Heights—is best recognized by the miniature ships' models in the ornamental work of its north tower. At the end of the long easy grade which begins at this point, is Kingsbridge (Two Hundred and Thirtieth street, Borough of The Bronx). Here turn to the left, so as to cross the railroad tracks and pass the railroad station; then make the first turn to the right onto Broadway. This roadway leads alongside Van Cortlandt Park and in sight of Van Cortlandt Station, and would bring up to Getty Square, Yonkers. However, just as one is conscious of being near the center of the city, a fork is made by Broadway and New Main street, both leading to the same end. The latter avoids a hill encountered the other way; hence it is taken direct, only with a slight bend to the right as one passes under the raised tracks of the Putnam Division of the New York Central. Getty Square is reached at once.

Go one block ahead on North Broadway to Dock street, which takes a much shorter block to Warburton avenue, there turning squarely to the right in front of the "Manor Hall" and Soldiers'



Monument. This provides a straightaway through Glenwood and Hastings, and leads on to the north. Unless it is desired to enter Dobb's Ferry (which is closer to the river and off the main line), avoid taking any of the several unposted roads leading into it. Instead (without actually turning anywhere that way), hold well to the right until, now past Dobb's Ferry, an easy turn leads up by a stone church and large schoolhouse close together on the left. Make this turn (or rather bend), passing the Ardsley Club grounds on the way to Irvington and Tarrytown.

On the right-hand side of the road you pass the building which was Washington's headquarters in the summer of 1781 where, on July 6, the French allies under Rochambeau joined the Continental army and where, on August 14, the Yorktown campaign was planned. One can see from the roadway how the river is gradually widening, soon to form the Tappan Zee, while it is more than likely that both pleasure and commercial craft are making their way up and down. Soon in Irving's country, one will naturally be on the lookout for "Sunnyside," and the stranger is likely to imagine more than once that he has found it among the goodly number of

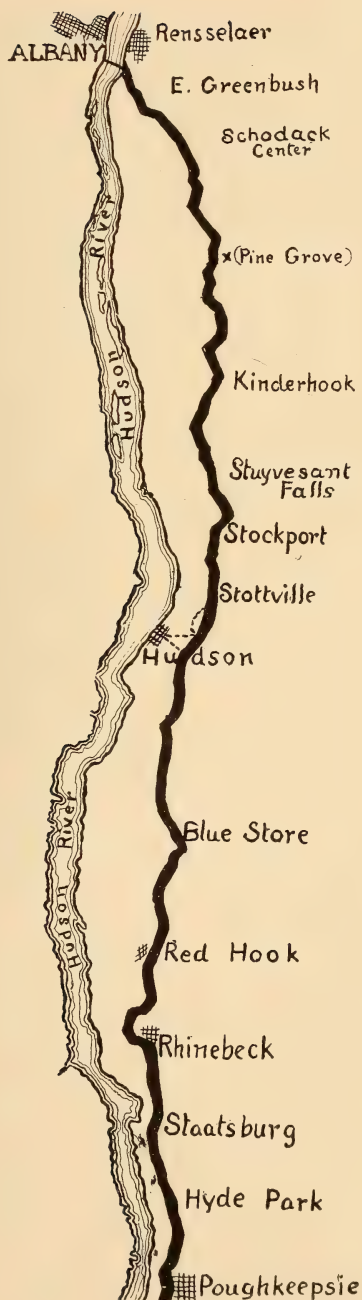


old-time mansions on either side of the road. About the time he is morally certain that it has been missed in spite of his care, he will see "Sunnyside Lane" lead down inauspiciously from the main road toward the river. And not until he has followed this line for a considerable distance—indeed to the very end—will he find on a bluff overlooking one of the sightliest points on the river, the home where Washington Irving lived, worked and died. Upon the gate which marks the entrance to the grounds is a sign specially denying the right of admission to automobiles. Returning again to the main road and upper Tarrytown is quickly at hand.

If there is is no necessity for going down into Tarrytown, drive straight ahead, passing the André monument almost immediately and coming upon an irregular four corners. Bedford Road, leading uphill to the right, is the approach to the old Sleepy Hollow Road; New Broadway—almost straight ahead as one comes from Tarrytown—goes outward and upward into the country, while "old" Broadway makes a turn to the left, passing by St. Paul's Methodist Episcopal Church, and is the way to Ossining. It is up and down all the way, for on every side the hills are in greater number and higher; but the going is fine. You speed over Pocantico Bridge and up alongside Sleepy Hollow Cemetery. On the way to Scarborough there is another bluff which commands a satisfying view not only up and down, but of the river and beyond.

Sing Sing prison is down by the river to the south of the city of Ossining, and cannot be seen from the road. From the public square, Ossining, pass the Soldiers' Monument, turn left and go down the hill that is—but ought not to be—on the main road. This takes you through an unsightly district and provides a climb farther on, thence by neither very good nor satisfying country through Croton (here along the railroad tracks), Oscawanna, Crugers, Montrose and Centerville to Peekskill. For most of the distance it is a ragged, half-deserted section, so near and yet so far from the centers of life and industry. Particularly on the way to Croton, the aim should be to the left (as both the river and the railroad bend), and more by instinct than by rule keep that way. There is one square turn to the left (around District School No. 5), and after that a long deep-shaded road, from fair to poor, according to season and weather.

Nearing Peekskill, the highlands reappear and bring back the earlier interest in the trip. If the day be overcast, the hills in front



show up larger and blacker than at other times. One may see Haverstraw Bay across the river and Treason Hill, where Benedict Arnold met Major André and arranged the surrender of West Point. Beyond Centerville, turn right from the old Albany post-road (Broadway, which takes one too far below), and enter Peekskill by Washington street, turning right into South street when near the center of the upper city. The forty-two or forty-three miles so far covered will be likely to prove more of a task than anticipated.

North from Peekskill, take Division street up over a hill, but bend to the left onto Highland avenue almost at once. Knowing that Garrison and Cold Spring are straight ahead of him as the crow flies, and seeing that the railroad makes a big bend with the river, the automobilist may imagine that he has the shorter distance to go. It would be so, except that heavier grades than any yet found are speedily encountered, and riding distance as well as propelling power is used prodigally in going over them. Down one long steep hill, keep to the left and cross the two bridges over (a) Peekskill Creek and (b) Sprout Brook (arms of Annsville Creek), through Annsville village. The camp of the N.G.S.N.Y. is between this section of the road and the Hudson.

It is now an almost continuous upgrade for four or five miles, topped by Nelson Hill—the steepest and most difficult on the entire route. Its continuous rise of 2,372 feet, with a maximum grade of 16 per cent. is better suited for hill-climbing exhibitions than for covering as a matter of course on tour. Most heavy automobiles must submit to being towed up, although some machines succeed in mounting it unaided. Once over, however, and the task is repaid in a measure by the show of progress on the road now under construction, by which it will soon be possible to go around with ease and comfort. Although this new way will be a public thoroughfare, the expense of its building is being met by the leading citizens of Garrison and Peekskill. The surroundings of Nelson Hill are wild and picturesque in the extreme, inevitably reminding one of similar localities in the Lehigh Valley and in the Alleghenies.

Ahead over improving roads is another irregular four corners, where there is a choice (to Wappinger's Falls, seven miles below Poughkeepsie), between the river road through Garrison, Cold Spring, Fishkill Landing and Hughsonville, and the inland road rounding Garrison, touching the outskirts of upper Cold Spring and running into Fishkill Village (five miles above the Landing). The latter is much preferable for automobilists, although the former has always been the favorite with cycle tourists. Therefore, take the right hand turn below Garrison, at the irregular four corners already mentioned, the sign reading "five miles to Cold Spring." Two or three miles beyond, you run alongside a deep glen, then onto a good road rounding upper Cold Spring, afterward fair going to Fishkill Village. This place (sixty-eight miles out), is entered by a broad bend of the road to the left, after crossing the tracks of the Newburg, Dutchess and Connecticut Railroad tracks. Follow down the main street until an old stone church is seen. Here make a square turn to the right on the road to Wappinger's Falls. At Wappinger's Falls, go straight up the hill, over the bridge spanning Wappinger's Creek, and alongside the trolley car tracks until they turn off to the left. Either keep the same road into Main street, Poughkeepsie (eighty-one miles), or follow the car tracks instead. The former is usually preferred, although the latter is perfectly feasible.

Following Main street to Washington street, where turn north, go under the approach to the Poughkeepsie Bridge, past the State Hospital for the Insane, and out into the country. It is the beginning of over thirty miles of excellent riding—by far the best of the trip—and can safely be taken at speed. Except for a good view of



the bridge (which cannot be had coming in from the south), there is nothing to cause one to look back. To and through Hyde Park and Staatsburg, from the number of fine homes, uncrowded and well-kept, it seems like the environs of Irvington and Tarrytown over again. Private roads leading right and left, are frequently as good as the main thoroughfare. "No trespass" signs are on the road-front of nearly every estate. Coming near enough to the river for a good view of the opposite side, you begin to breathe the air of the Upper Hudson. Instinctively you say it is the lower highlands over again only with their chief hindrances to pleasant automobile travel left out, and put on another bit of power.

Beyond Staatsburg the road again bends away from the river and railroad and makes a "long way around" to the higher lands eastward. The first long steady grade achieved and the foothills of the Catskills are in sight. Beware of the turn to the left which leads down to Rhinecliff (on the river), but follow on into Rhinebeck, which is three miles inland. The main highway shows itself plainly throughout, and one needs only to keep off the cross-roads or, once off, to get back.

If no stop is required at that point, push straight through the village of Rhinebeck, shortly beyond which is the weather-beaten stone marking in old-fashioned figures and letters 100 miles from New York, one of the few of its line left undisturbed up to this time. (The same distance on the railroad reaches a mile above Tivoli station). Cross the tracks of the Central New England Railway, and two miles or so beyond, keep to the left, where an old church and cemetery mark a fork in the road. It is straight going to Red Hook and Upper Red Hook, Clermont and Blue Store. Here (a fragment of an old settlement named from the prevailing color of its few buildings), turn left around the hotel, en route to Hudson. You are now well abreast of the Catskills and would pass Catskill Station (ferry across) but for the fact that the inland road, rather than the line of the river, is being followed.

It is a short run to Hudson, the old post-road going up past but not into the city. However, as the next full stop will be at Albany, thirty-three miles farther, over variable and at times confusing roads, a rest and some attention to power supply will probably be welcome, if not necessary. Unlike most of the cities on the way, too, the grade from and back to the main North-and-South line is very moderate, and the run either way, is made in two or three minutes.

Leaving Hudson (127 miles), either go back to the post-road, or take Greene street out in the same general direction, but a shorter distance. In either case, you bring up at one of the most important four corners on the trip, formed by (1) the entrance of the post-road; (2) Greene street, out from Hudson direct; (3) the outward thoroughfare to Chatham, Lebanon Springs, and other points immediately northeast, and (4) the continuation of the post-road upward. Take the latter and keep it straight through Stottville Corners and toward Stockport Center. The run is at first frequently alongside the third-rail electric car line between Hudson and Albany, and later on a valley opens up on either side, leaving the highway a narrow ridge between them. One-and-a-quarter miles below Stockport Center, there is a choice of two roads to Albany, (1) the river road, via Columbiaville and Cocksackie, twenty-eight miles, or (2) inland through Stuyvesant Falls, Kinderhook and Schodack Center, twenty-eight and one-quarter miles. The latter is preferable—especially in doubtful weather, for it is on higher and firmer ground.

Immediately approaching Stockport Center, bend right down the hill, go over the bridge and through Stuyvesant Falls to Kinderhook. From here published reports and natives' directions all agree that it is the old Albany post-road through to the end. Yet more lose their way on this last twenty miles than on all the roads below. Speeding into Kinderhook, it appears as if straightaway through the town where the proper route to the north. Not so; it is a turn squarely to the left, leading up past the cemetery. Scarcely more than a half mile farther, a signboard confidently points the way to Castleton-on-the-Hudson; and although this is a more or less clearly defined departure from the main road, one may be consistently following, many there be that make it, especially since it starts off well. Albany can be reached that way—at times with comfort and pleasure—but it is not a departure to be generally recommended. Keep ahead, bending this way and that with the road, but holding to it nevertheless. You are pursuing a sort of middle course—the river and (N. Y. C.) railroad not many miles away to the left, and the Hudson-Albany cars and Boston & Albany trains (to and from Chatham and Pittsfield), now and then for a minute in sight over to the right.

The signs at the road crossings seem in league to show you every manner of crook and turn. Ignore them (in so far as your up trip is concerned), and come into Schodack Center, eight miles from the end. The place is nothing, the point an important one,

since here the post-road merges with the Boston turnpike (the old highway from New England to the Hudson). The upper "Harlem Railroad Country," (Chatham its northern terminus) is but a few miles over to the east, and Pittsfield under thirty by road. The going improves slightly on to East Greenbush, but loses in condition shortly thereafter. You notice on this last stretch a sign pointing out a way to reach Troy by a more direct road than that through Albany. Approach Rensselaer with care and patience for its entrance from the south, via Columbus avenue and Columbia street to Broadway, direct to the South Bridge, is an unworthy ending to any pleasure trip. This is the bridge over which all classes of vehicles enter Albany from below, and toll is charged. On the other side of the river, take Broadway, through another uninviting district, and over wretched pavements, to the foot of State street, and you are in the center of the downtown city. It is worth while to ride up Capitol Hill in order to get a more accurate idea of the last few miles than can be had by simply going over it once. And the satisfaction which one naturally feels at the safe finish of such a trip, will be at the same time augmented.

\* \* \*

The trip from New York to Albany is one that every automobile tourist, unless he has done so already, expects sooner or later to take. On the whole a hard and difficult run, there are still attractive features out of all proportion to the time, labor and expense involved. None other of our rivers is so bordered on both sides by railway lines, or floats so many steam and sailing ships in so small a territory. You are always conscious of being close to the throbbing pulse of things, and that is rather pleasant than burdensome—even on a holiday—when you have all outdoors to think and move in. The machine under your hand responds to its necessary part of the work, and you take on the go every angle of view to be had from the unobstructed highway. Part of it is fleeting and part lasting, but you would speedily quarrel with any condition likely to deny you at some future time another right of way for your automobile up or down the Hudson.

### Two With But a Single Thought

Jumpspark—Of what use is a horse anyway? Who wants them nowadays?

Pumpmore—Why, horses are all right. Think what lovely cushions their hair and hides make for an automobile.



## Amid City Bells

By JEAN DES BOISÉNEY

**E**XPERIENCED New Yorkers have learned to jump, without waiting to look around, whenever a bell rings. While crossing a street this spasmodic, mechanical spring has become so common an affair that few turn back, as they do even when they slip on a banana peel, to see what particular variety of death they have escaped. Besides, after long experience, the city man

learns to know from the sound just what mechanical monster is coming, for each kind of warning bell is kept fairly distinct in the city.

The difference between the single clangs of the cable car, which have a certain variety in their order depending upon the individual gripman, the telephone-like burr of the bicycles, the rolling muffled gong of an ambulance, and the sharp, ding dong from a fire engine, the sound that seems to keep at least half a block ahead of the roaring mass of the engine it-

self, the chiming of the private automobile or the clear quick ring of the electric cab, is as clearly marked, and the sounds are as easily distinguished from one another as the voices of one's friends. For these are the voices of many a one's terrors.

As the number of light automobiles of the runabout type increases, bells grow more and more numerous in the streets. In old



Mr. and Mrs.  
Angus Sinclair

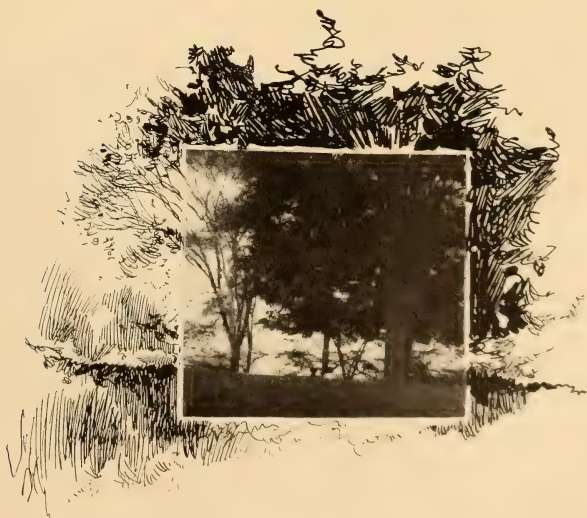


times it was only in winter that one heard street bells, when the snow made things quiet, and then they were mostly sleigh bells; but those now are rarely heard outside of the park (and not there many times). Besides warning bells there are the quiet inoffensive bells that no one moves any faster for, like the jangling ones that hang on a string over the old-clothes carts, or the small dinner bell of the knife grinder, or the little tinkling toy bells on the harness or the collar of a pet dog or cat.

The use of bells is characteristic of New York; perhaps America. In Paris the trains and the automobiles and most of the bicycles clear their way by means of those tooting horns, that give out such discordant squawks whenever the rubber bulb attached to them is compressed. In London the "bus" and cab drivers use nothing but their voices to make the street crosser move more quickly.

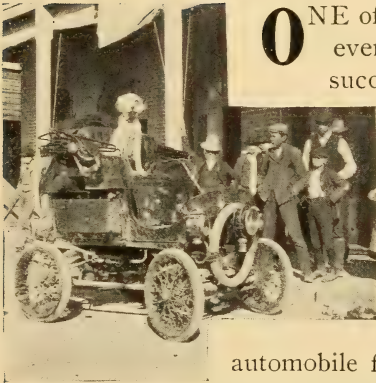
But in New York the warning is nearly always given by a bell. It is unusual to hear any one shout until it is too late to be of any use, and until French motor vehicles came, horns were unknown in our streets, except now and then for a four-in-hand coach.

It is considered cause for wonder that (in a day of such) some philanthropical person with a musical ear does not start a movement to have all these bells tuned the same key, on the principle that the bells are arranged for the different herds of cows in the Black Forest and Switzerland. As it is now, the bells of New York may serve to warn people, but they never will serve to win them.



# Automobiling in the Wilderness

By ANGUS SINCLAIR



**O**NE of the most enterprising performances ever undertaken with an automobile, was successfully carried out last winter by Mr.

C. E. De Long of Hot Springs, Ark. In the early winter Mr. De Long sold out a jewelry business which he had in Hot Springs, and conceived the idea of amusing himself with an automobile while enjoying a well earned holiday. After looking over the

automobile field and having studied the various makes, he decided to invest in a Toledo Steam Carriage and to Toledo he went to make a thorough examination of the machine. Being a mechanic himself he had no difficulty in mastering the mechanism of the automobile, and he remained in the factory several weeks for the purpose of familiarizing himself with the process of construction.

When the carriage was ready for delivery, Mr. De Long conceived the idea of running it to Hot Springs on its own wheels, rightly concluding that he would enjoy a great deal of automobiling experience during the journey. The makers of the machine and other friends, attempted to dissuade him from the undertaking, but he made up his mind to make the attempt, no matter what obstacles might be encountered.

The difficulties of the journey could readily be perceived, for a distance of about 1,500 miles had to be traveled in the dead of winter through part of five States, and through regions wild and rugged, where road-making had not been begun. The principal in the undertaking was



Over L. & N. Pike





Kentucky Mountain Roads

familiar with the Middle Southwest States, and he was aware that bridle paths for many miles would be the only guidance of his route, and that they would lead him through rocky defiles, thick forests, miry swamps and over fordless streams; but all these difficulties did not deter him from the enterprise.

They left Toledo on December 24, the day before Christmas, and Mr. De Long was accompanied by another adventuresome

soul in Mr. J. E. Soules of Toledo. They took the most direct roads to Cincinnati, which took them over the route followed by the pioneer French voyageurs, who long ago established a line of transportation from Lake Erie to the nearest point on the Ohio river. The journey of about 200 miles from Toledo to Cincinnati, was not regarded as a great feat, but several snow and sleet storms were encountered, which would have convinced most of the enthusiastic automobilists that traveling by rail was much more desirable at that season of the year. But that was not the way Mr. De Long felt.

Those of us who have operated steam automobiles naturally inquire, how did you prevent the steam and water pipes from freezing in such weather? That difficulty was neatly provided for.



Crossing a Tennessee Creek

The steam gauge was placed close to the boiler and connected by a short pipe which was kept from freezing by the heat of the boiler. There was no difficulty with the water pipes when the machine was at work, and at night when the carriage had to be left outside, which happened frequently, the pilot light was kept burning, which kept up steam and generally kept the temperature above the freezing point. The flame of a torch was

applied to the pump and pipes before starting, to make sure that there was no ice in them.

From Cincinnati the party followed the Valley of the Ohio to Louisville and in doing so, crossed the river three times. The roads were wretched and made a good introduction to the worse ones in Kentucky, Tennessee and Arkansas.

From Louisville the party proceeded towards Memphis, keeping always as close as possible to the line of the Louisville & Nashville Railroad, as that took them the most direct way to their destination. Those who located the line of the Louisville & Nashville Railroad, naturally followed the line of least resistance, but their locating was no help to people going in the same direction by the country roads. Until lately the constructing of a railroad through a district has militated against good country roads, for an impression has been fostered that railroads dispensed with the necessity for good statute roads.

The pictures shown in connection with Mr. De Long's trip give a good graphic history of the journey, and illustrated in an impressive shape the country traversed and the roads that had to be followed in Kentucky, Tennessee and Arkansas.

Those who are familiar with the history of Scotland, will know that King Robert Bruce held a place in the hearts of his countrymen not unlike that held by George Washington in this country. Bruce had carried out the difficult feat of ridding Scotland of English conquerors, and he left to his countrymen the advice to abandon their homes and retire with their flocks and herds to the mountain fastnesses when an army of Eng-



Water from Big Sandy



Tennesseeans call this a Road

lish invaders was moving upon them. This policy worked very well in one way, but it left in the Highlands warlike clans who recognized no authority of the established government of the realm. And the Highland chiefs understood the value of the want of passable roads as a means of defence. After the last rising of the Highlanders in the Stuart cause, the British government employed General Wade to supervise the construction of a series of military roads, which made every nook of the Highlands accessible. At some periods of the year, even the military roads were sometimes almost impassable. On some English tourists being heard to complain about the condition of the roads, a ready rhymster was heard to exclaim:

"Could you seen a' thae roads afore they were made,  
You would hold up your hands and bless General Wade."



Near National Cemetery,  
Dover, Tenn.

The rhyme has become a sort of proverb in Scotland concerning bad roads.

Many of our States are badly in need of a General Wade, and the automobile journey through Kentucky, Tennessee and Arkansas, gives an object lesson which ought to stir up the road-makers of these States.

The party did not get far away from Louisville when the number and variety of their difficulties began. They forded Salt river near Shepherdsville and their first serious mishap overtook them in going through the stream. The suction pipe of the air pump got under the water and that element not passing readily through the air discharge passages, the shock was so great that it broke off the cross-head pin. Repairing that delayed them several hours, then they started and soon came to a worse obstacle in the form of Rolling Fork Creek, which could not be forded, and there was no ferry. To cross the stream they were compelled to go back from Lebanon Junction, forty miles, to Bardstown, where there is a bridge. That did not discourage them. They pushed on to Cave City, and made a stop there to visit the Mammoth Cave.

Throughout the journey Mr. De Long visited as many places of historical interest as he could find. He went out of his way to

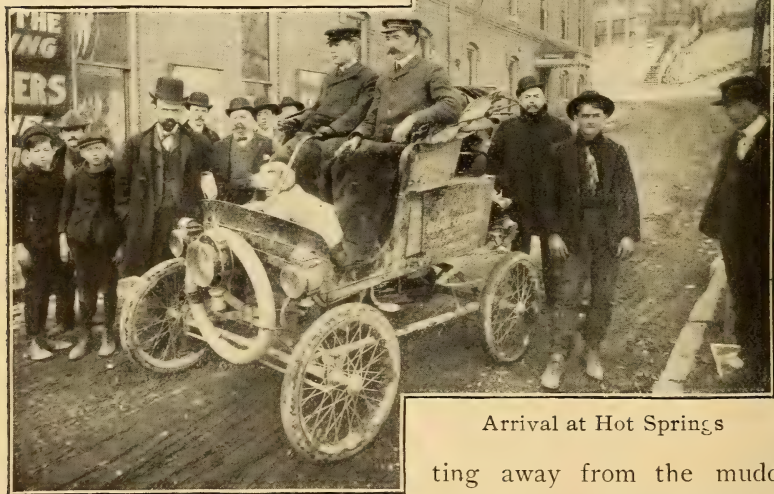


visit Buffalo, Ky., and to look at the house where Abraham Lincoln was born. From that place to Conner, they encountered the worst wheeling of the journey. There were neither roads nor towns, and they had to work their way through a howling wilderness, guided by the compass. The best shelter they found here and in many other districts, were in negro cabins, where they were always made welcome and hospitably offered a share of such wretched accommodations as the owners had for themselves.



Cumberland City Boulevard

They crossed the Tennessee river on a ferry boat, ran the carriage through mud reaching the machinery to get there, and went through similar experience get-



Arrival at Hot Springs

ting away from the muddy stream. At one place they had to overcome almost insuperable difficulties in getting over a deep but narrow stream. The banks were about twenty feet above the water and very steep. To get to the bank they had to cut through



Arkansas Red Clay Thoroughfare

suction pipe which was led up to the top of the boiler, so there was afterwards no sucking of water.

At one place they got out of gasoline twelve miles from a source of supply, and they hired a farmer to go in a wagon and bring what they needed. That made a day's delay, which was utilized in taking the mechanism apart, when it was all thoroughly cleaned and the glands carefully packed.

Among the numerous towns visited en route were Bowling Green, Russellville, Ky., Carbondale, Dover, Paris, Milan and

several barb wire fences. When the bank was reached, a stout rope was attached to the hind axle, a turn was taken around a tree, which enabled Mr. De Long to lower the carriage slowly, while Mr. Soules guided it to the desired point. Farmers on the other side lowered planks to make a chute on the bank, and pulled up the machine by a pair of mules.

When the accident happened to the air pump, they put on a



35% Grade in Ozarks



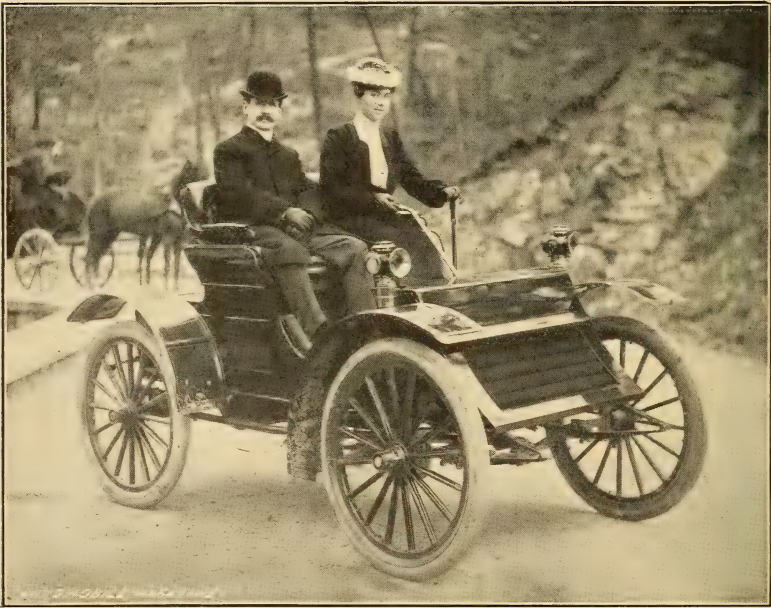
Taking Water Up 10 Feet

Memphis, Tenn. In Dover they stayed in the hotel which was the headquarters of General Grant when he was operating in that quarter. They remained for two weeks at Paris, Tenn., to rest and permit the waters, which far and near had overflowed, to subside. After that they pushed on to Memphis and found that the Mississippi had spread its waters so far over



the forests of Arkansas, that they took the train to Little Rock, Ark.

The picture which shows the automobile toiling through the Arkansas yellow clay, and that showing the 35 per cent. grade on the Ozark Mountains, will indicate that Arkansas does not yet provide roads that make automobiling a joyful pastime. But paths that



When She Has the Lever

a sure-footed donkey would hesitate to tread were followed with the four-wheeled vehicle, and by slow marches, the hill nestled city of Hot Springs was reached and his fellow townsmen gave the courageous automobilist a hearty welcome. The party had been forty-four days on the road when they reached their destination.

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### Misfits Desired

"This business of mine is a queer one," mused the man, as disgustedly he replaced the headlight the man with the Vandyke beard had been looking at. "Everybody that comes in here for an automobile lamp wants one that won't soot."



# THE AUTOMOBILE MAGAZINE

*A Live Journal for all interested in Motor Vehicles*

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## The Story of Progress

**P**ROGRESS is not all hurrah. There are always some who are being left behind, and the dropping by the way of the maimed and the halt causes sometimes a pang of regret.

While we mourn the loss of those who stop by the way, we will largely measure our progress by them. It is the past always that must tell how fast and how far we have gone.

We cannot gauge our speed by our rate of approach to any point ahead of us, for we can never see far enough in that direction. Even in looking backward it is necessary to still keep our vision advancing. Our point of comparison must be shifted ahead from time to time, or we can no longer make accurate and reliable observations.

There are those who fail to do anything of this kind and who keep their eyes still fixed on the far-away landmark, and when it grows dim and distant they moan and sob over the change in the landscape. Such as these there are in the vehicle world to-day.

Where, they ask, is the reinsman who drove his flying team of half broken horses down the sides of the Rocky Mountains? Where is the old blacksmith of song and story, or the manual skill of the all-around man that flourished in every shop where vehicles were laboriously and clumsily turned out in the good old pre-locomotive and pre-automobile days? Alas! the looking-backwardites cry, they are gone forever. Well, what of it? Who now wants such men or such methods, or, indeed, could find use for them?

We not only travel in different ways and by different means, but we have also different labors to perform, and all the talk and all the thoughts of the world are changed accordingly. To recall with regret that things are not what they were is one way of recognizing, and perhaps of accepting, all this, but it is not the best way. The vision of the optimist is always more nearly correct and more to be relied upon than is the doleful dream of the pessimist. The changes that progress bring are only to be regretted by those who are left behind.

Those who have to deal with the vital problem of transportation can least of all afford to dwell too long or too lovingly upon what has been. Their engrossing business is with what is and with what is immediately coming; and dealing with these their ideas must, of course, change continually.

The vehicles of a generation ago, and the practices which could be urged with force and seriousness then could not be so treated in the to-day of the motor vehicle without incurring the reproach of advancing senility. No longer the ox, the mule or even the horse—those were of yesterday; to-day it is steam, explosion, electricity. The old has given way to the new, and the gift is beyond the recall of any one sentimentalist, anti-progressive or what not.

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## Something to Be Stopped

**B**E the cause what it may, the fact remains that there is a manifest attempt on the part of the New York police, aided by a not inconsiderable portion of the metropolitan press, to inaugurate something like a crusade against the automobile and its users.

The more expensive the former, or socially prominent the latter, the surer is an arrest made if the slightest opportunity for doing so is given. Like death, the guardians of the public safety

seem to delight in a shining mark and to have decided that just at the moment there is nothing more shining or more marked than the automobile and its owner.

We have grown used to such attacks around election times because the game of politics, as it is played here in one of the greatest cities in the world, is supposed by its players to call for a certain amount of injury to the well-to-do citizens just before those citizens who are not so well provided for in the world's goods are called upon to cast their ballots. Later those who are elected as a result of these attacks go to Congress, the Legislature, or, may be, to jail. If it be the two former they continue there to play the same kind of politics, only in legislative halls it is known as "twisting the lion's tail," and consists in wild harangues against all foreign countries, one in particular.

With the election six months in the future, however, the cause for the present severity is not easily discovered. Neither is it possible to suggest a remedy. Virtually the accused has no chance to escape the charge, his word or that of expert witnesses in his behalf going as naught against the unsupported assertion of the officer making the arrest, who, as a rule, seems to have decided that every motor vehicle can do and does do forty miles an hour through crowded traffic and so testifies against his prisoner before the magistrate.

It cannot be denied that there are reckless automobilists, just as there are reckless policemen, pedestrians and truck drivers, but it does not follow that all automobilists are deserving of arrest and punishment because some of them are. Nor does it seem natural that solely because a man owns an automobile which may be capable of going faster than the law allows that he at once proceeds to constantly risk his neck and an expensive carriage in wild attempts to run over the entire population of the city of New York.

To some of the magistrates and quite a number of the police such statements as the foregoing will be looked upon as biased testimonials in favor of the motor vehicle. Apparently it is for the nonce the belief of these officers of the law, that the ownership or the use of an automobile is *prima facie* evidence that the owner or the user is a fit subject for arrest and punishment as being a danger to the public welfare.

To allow things to proceed as they are now going is to risk this prejudiced idea becoming chronic with both magistrates and



policemen. At once the result would be that the ownership of an automobile would become a thing so fraught with discomfort and annoyance that few would care to submit thereto and would either abandon the motor vehicle or else refrain from using it until they could be assured of not being discriminated against by the magistrates and the police.

While at present the center of all this persecution is in New York city, the fashions here set are soon followed in other communities, so the time and the place to stamp the thing out before it becomes epidemic is now and here.

We believe the trade and the automobile organizations can therefore unite upon nothing which is more pressing for immediate, concerted and energetic action than this New York attack upon the enjoyment of a rational employment of the automobile. Certainly they can find no other injustice whose correction would bring greater satisfaction to all connected with both the sport and the trade than this.

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## Plea for Education

**I**N a recent circular to its members impressing upon them the advisability at this time of being doubly careful of disobeying road ordinances, President Shattuck, of the Automobile Club of America, took occasion to say:

"Some members of the club have made it a practice when residing in the country to have their automobiles sent to the nearby town or village every morning for a week or two and carefully run around the public square, so that owners of horses might have them accustomed to the sight of and to the noise made by the machines. Where this has been done it has been appreciated by horse drivers, and it tends to promote a feeling of friendship rather than antagonism towards the automobile. We recommend this practice highly to you, and we suggest that all members of the club who reside in the country during the summer make a point of doing this. By using care and by being considerate of the rights of others the feeling which has been engendered against the automobile can, we believe, be overcome."

The idea of the automobilist doing all that he can to educate horses and their owners to become familiar with and favorable to the automobile, is a most excellent one. Not only should this and similar ideas be carried out by every automobile club, but by every owner of a motor vehicle, whether he be a clubman or not. Educa-

tion of man and beast is all that is needed to remove nine-tenths of the hostility and fear now shown against the automobile.

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## Weight of Steam Engines

**O**NE of the most striking and valuable improvements effected on modern steam engines has been the reducing of the weight per unit of power. To American inventors and engineers is due the credit for the greatest share in this improvement.

In the Newcomen atmospheric engine which was the first to employ the piston in a cylinder, the engines seldom weighed less than two tons per horse power developed. Smeaton by using higher pressure of steam, which, however, seldom exceeded ten pounds per square inch above the atmosphere, reduced the weight to a little over one and a half tons per horse power.

Watt by his various improvements, including higher steam pressure, reduced the weight to about 2,000 pounds per horse power, and there is remains for many years with the ponderous, slow moving jet condensing engines which he left to the world. Oliver Evans used high pressure steam and high piston speed and obtained a horse power for about 150 pounds weight. Native made American high pressure engines built sixty years ago, seldom exceeded 400 pounds per horse power, and it was gradually reduced till 100 pounds per horse power is now about the average. Locomotive engines without the tender average about 160 pounds per horse power, but that includes the weight of boiler which is not imposed upon stationary and marine engines.

Some special forms of steam engines designed for ballooning and other purposes where lightness is of the first importance, obtain one horse power for much less weight than ten pounds. Maxim & Langley made steam engines that weighed only about six pounds per horse power, and engines for torpedo boats are made as light as fifty pounds per horse power.

The engines applied to automobiles have been reduced in weight to the very lowest practical limits and some of them do not weigh more than ten pounds per horse power.

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The question of whether the English rule of the road or the French one is the better has been rather untimely, we think, revived by Comte Jean de Sabran-Pontèves, who contends that the English method of regulating traffic should be employed all over Europe.

Driving itself is an art which the French learned from the English, who selected the right side as a seat for the coachman in order that he could watch the wheels when he crossed other vehicles to his left. In England the mail coach was ever the favorite vehicle for traveling, whereas in France the postilion was master of the road, and, as he rode the left, or off-side, horse, he kept to his right in order to keep his wheels clear of vehicles coming toward him. The English rule of the road obtained on the railways, as Englishmen had built the first railways in France, and in his opinion they ought to exist on the road because the art of driving had come from England. In our opinion the most convincing argument against this Pontèvesian theory, however, lies in the fact that it is now a question of regulating not horse but automobile traffic, and in that the French have been the pioneers and are to-day the undoubted leaders.

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Second and third grade and second hand motor vehicles are all very well in their way, and it is better to ride a third grade automobile than it is to walk or to depend upon horse cars and the like, but for your own sake you should get the best your purse will afford. It matters not whether the vehicle is required for speed work or pottering; it is all the same in the long run. You take it out of the price of a machine in buying a cheap article, and the cheap vehicle takes it out of you in return, requiring more expense for less performance and satisfaction. Yet how often does one hear people who can, and do, give fancy prices for their carriage horses say, "Oh, I only want a cheap automobile, just to potter about in!" They never realize that they will be themselves the sufferers, and have to pay the difference in price in repair bills and doctor bills too, very likely.

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"Jersey justice" certainly is not strained when it comes to dealing with the users of automobiles. A Morristown justice, before whom was brought a New York motorvehiclist charged with scorching, promptly fined the accused man \$250. Upon the New Yorker declaring he did not have just that sum in ready cash, the justice began to lop off dollar by dollar, until he reached \$17.45. At this bargain counter price Jersey justice was satisfied and the New Yorker allowed to pay and to go. It seems to us that even for so valuable a commodity as justice, especially Jersey justice, the discount for cash between \$250 to \$17.45, is a bit too much. The moral is plain; don't scorch in New Jersey, or if you do, keep away



from the vicinity of Morristown, and be sure to leave your money at home.

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Already shrewd livery stable men object to hiring a horse to drivers who are used to employing automobiles for their outings. The liverymen's explanation of their avoidance of automobile trade is simplicity itself. They say that when a man has grown accustomed through use of a motor vehicle to have almost unlimited speed and power at his command at all times, he forgets when he returns to driving a horse that muscles cannot stand what motors can. Unconsciously the automobilist forces the animal to keep a speed and to go a distance which it cannot do with safety. The wise liverymen know this, hence their disinclination to entrust the animal to the unthinking motorist.

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Stupidity in automobilism, after all, has its merits. To convince a stupid man of his own stupidity regarding the vehicle he owns and pretends to understand, is generally impossible, which in itself is a source of invulnerability from outside discomfiture. The sensitive, high-strung, nervous organism has no idea of the security that goes with general stupidity. Among sensitives, who take to automobilism, the cultivation of a judicious stupidity is more to be desired than much fine gold. A proper culture in dulness is a source of serenity which rarely comes except to old age. Not to know that you are in danger is oftentimes better than to know that you are free from danger.

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The man or woman who disdains advertisements will continue to travel in a stage coach, while the more quick-witted brother and sister, who eagerly embrace all the opportunities offered in advertising, will travel in a swift moving motor vehicle. Have nothing whatever to do with advertisements, and you will relatively be like the old farmer who couldn't be induced to travel in a train for fear of an accident. There are railroad accidents and there are fraudulent advertisements, but they are mighty rare on a good road and in a good paper—and they never happen twice in the same place.

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In view of the recent action of the foreign governments in forbidding the big international road races, it might be well for Americans to make a virtue of necessity and loudly proclaim themselves as being unalterably opposed to any such affairs in this country. Under conditions as they exist here road racing never had the

slightest chance of becoming even a shadow of what it was abroad, particularly in France, and it is, therefore, perhaps just as well that no successful attempt to promote such affairs was ever made.

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A German savant, one of those real benefactors of humanity, has compiled a dictionary of some 26,000 "cuss words." It not only fills a long felt want, but is just in time to relieve the feelings of many automobilists who, in these bright spring days, are having their first experiences with the cussedness which at certain times, seems to take complete possession of a motor vehicle and all connected therewith.

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The Société d'Enseignement, for aiding the instruction of adults in Paris, has just added a branch devoted to automobilism under the direction of M. Bellan, municipal judge. Each day includes a different department, such as mechanical drawing, elementary mechanics, mechanical construction, and electrical traction. A good example to follow on this side of the water.

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Beware of the automobile when it crieth "tuff-tuff," champeth at the brake and with the restless at its wheel, smelleth the battle of speed not afar off! Verily, when this cometh to pass, the wise man climbeth a tree, but the fool standeth in the middle of the road "to see the fun" and lo; a funeral is his.

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France is in high glee over the introduction of a motor plough. Nothing new in that. So long ago as 1618, David Ramsey and Thomas Wildgosse took out a patent for engines and machinery to plow ground without horses.

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Dealing with the ever increasing use of the motor vehicle it is well to remember that a good, healthy constitution and the canned beef industry, go far to keep the deposed horse from being eaten up by envy.

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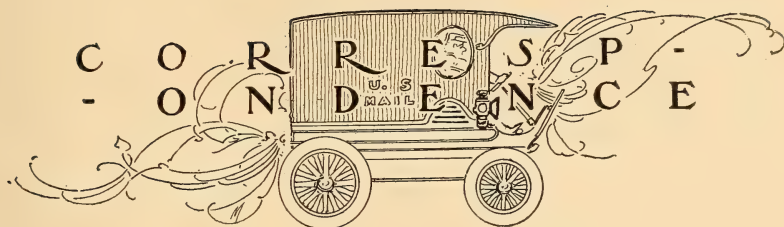
Good workmanship in a vehicle, like phosphorus, shows up best at the darkest hour.

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There are some motor unfortunates who can become sadder without becoming wiser.

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There is no vacation in the school of automobile experience.



### The Lubricating Graphite Does

**I**F it be not too much trouble I would like to learn from you whether some more satisfactory methods of cylinder lubrication cannot be found than those which make the use of oil an essential. I have had some experiences in this line which do not tend to make me entirely satisfied with the use of oil alone.

Pomona, Cal.

JAMES REDINGTON.

The theory of oil lubrication is that with it the surfaces are kept apart or "floated" by minute globules of oil. In graphite lubrication the microscopical irregularities of the bearing surfaces are completely and evenly filled with the graphite so that the surfaces are of such smoothness that friction and heat are reduced to a minimum. Because of this difference between oil and graphite lubrication and because graphite is a solid substance, it is recommended that only small quantities of graphite be used, and it should be used only as needed. We believe that if more attention was paid to the employment of some good solid lubricant like Dixon graphite, that you, and other automobile owners and users, would have less cause for complaint of unsatisfactory cylinder work.

### Pipe-length Distance Measurement

**D**ESIRING to see Holland from the seat of an automobile—don't you become possessed of the same idea—I found myself one day asking an unusually intelligent native in Rotterdam how far away from the docks where we stood were the distant chimneys of the large distilleries of Schiedam (the manufacturing place of the world-known Holland gin), "How far is it from here to Schiedam?"



"About two pipes of tobacco," came the prompt but, for me, mysterious answer.

I found afterward that it meant as long as it took to smoke two of the small clay pipes filled with the villainous, strong Sumatra tobacco the workingmen in Holland generally smoke—about fifteen minutes to the pipe, or a half hour's walk from Rotterdam to Schiedam. But as your Hollander is a slow smoker and a slower walker, I found I could steam the distance in an automobile in less than five minutes, despite the fact that the road surfaces I was forced to travel over were not such as to warrant anyone coming more than 3,000 miles to jolt an American automobile over.

Portland, Maine.

R. S. DENSMORE.

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### Wanted—A Business Vehicle

**A**S a fair representative of a very large number of people who want to purchase automobiles just as soon as the makers of the new vehicle will give them such a conveyance as they want, I wish, through the *AUTOMOBILE MAGAZINE*, to call the attention of the automobile manufacturers to this trade which they are neglecting.

I have, for more than twenty years, been a salesman for a big wholesale grocery house here. In the performance of my duties I am forced to visit from 50 to 60 customers each day. Now I must do this in all kinds of weather, and through and over all kinds of streets and roads. The thing which would best enable me to do this is an automobile, but when I seek to get one I find that the makers of the motor vehicle are one and all turning out only a fair weather, good road conveyance. They expect me to sit in an open conveyance unsheltered from the elements to catch pneumonia and rheumatism while I attend to my daily rounds.

What I want, and what hundreds and hundreds of other men want and are willing to pay well for, too, is a not-too-expensive, strongly-built automobile which will go the route and which can be closed up so as to afford perfect protection for its user from the cold or the heat, to say nothing of rain or snow.

If any automobile manufacturer will make such a vehicle I am sure there is not a wholesale concern in this part of the country which would not purchase one or more of them for the use of their salesmen. Speaking as a member of the St. Louis City Drummers' Association, which I organized in 1882, and which has now over

300 members, each one of whom is a salesman in a wholesale house and the user of a horse and buggy as an absolutely necessary part of his business equipment, I believe that seventy-five per cent. of them would to-morrow replace the horse with a motor if the right kind of an automobile was offered them.

Surely this is "a crying need" which is well worth the while for any motor vehicle manufacturer to especially cater to. If these words of mine should result in arousing the automobile people to this commercial gold mine, and I can aid them in an attempt on their part to work it by supplying them with any further data as to the kind of vehicle myself and my fellow salesmen want, I shall be only too happy to do so if they will only communicate with me.

2508 Coleman street, St. Louis.

H. S. PARKER.

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### What Florida Offers

**T**O the man who has served his novitiate among the not over kindly disposed ruralities of the North, the treatment he gets when he brings an automobile down here is surprising, to put it mildly. No one here seems bent on impressing upon you that you are but one degree removed from a murderer, and that it is only the forbearance of the dear peace loving ruralite which prevents you from being drawn and quartered for daring to appear upon the highway with a vehicle which does not call for actual, not nominal "horse-power." To the contrary the leading papers print editorials like this:

"In Florida there is room for the motor and the horse as well. Indeed, the horse would be so rarely met between our towns that the motor might be allowed to choose its own pace without danger to any but its own party, for which we are not called upon to be careful. "Why might we not make a motor and cycle circuit, beginning at Jacksonville, to include Palatka, Sanford, Orlando, Ocala and Gainesville, and so 'to the place of beginning,' as the surveyors say? This could be intersected by another beginning at Tampa and touched on the northern edge by one with Tallahassee for a starting point. With a straight run eventually to Titusville, the attraction would be felt throughout this country and soon be known in Europe. Why not? The cost would not be great, and it could be managed as a turnpike if necessary."

I really believe that such a road as the one outlined could be built and maintained at a very small comparative expense. Florida has a plentitude of a peculiar kind of porous rock which packs well, making a durable surface which is never slippery and over which a

motor vehicle fairly flies, and even in the driest weather, raises little, if any dust. With no hills, perpetual summer and the liberal views betokened by the editorial I have quoted, it would be an easy task to make of Florida a place where owners of automobiles would be welcomed, not frowned upon, as they too often are in communities which are over fond of boasting of their superior refinement, wealth and progressiveness.

Palm Beach.

JOHN W. BELL.

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### "Feel of the Road"

**W**HAT is this "feel of the road" to which the railway men testifying in the recent New York tunnel accident investigation referred so often? To them, apparently, it is something at once real and familiar—something that gives them information quite apart from the regular signals and yet both trustworthy and trusted. One engineer said that he would not take a passenger train through the tunnel until he had made the passage an unmentioned number of times with the responsibility for safety resting upon somebody else, but with "the feel of the road" once acquired, he would apparently have little fear, however thick the smoke, steam, and fog might be. So far as a layman can guess at the mysterious phrase, it hints that, after an engineer has passed over a given piece of track repeatedly, its minute irregularities, consciously or unconsciously noticed, inform him of his position, even when he can see no signals. I myself, know that when I have traveled a certain route for a while, I can take an automobile over it at almost full speed without hardly any attention on my part. Maybe this is the "feel of the road," which unconsciously I have acquired without being aware of it.

Dubuque, Iowa.

P. J. DEVILLIERS.

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### One More "Less" Affliction

"My, I had an awful dream last night," said the party who had been to the automobile club and supped off Welsh rabbits, broiled oysters, beer and some other things of a like delicate nature. "Thought I was tied hand and foot on a big forty horse-power racing car, which was running fifty miles full tilt to where a precipice, a thousand feet high, cut the road in two—"

"Oh, yes," interrupted the listening friend, "I know, a horseless nightmare, eh."



## Parts and Their Strength

**W**HILE many users of automobiles have just cause for complaint at the lack of attention to details and for failures due to weak fittings, there is, as in all such matters, another side to this story. It is often said that a vehicle should be so built as to stand any strain put upon it by the user, but this is an open question. Modify this so as to read "any strain put upon it without exceeding the limits for which it was designed," and no manufacturer will raise the slightest objection.

This point was brought forcibly to mind by a recent complaint of the failure of fitting in a steam vehicle—some of which may have been well founded. But should the manufacturer be expected to supply parts strong enough to stand three or four times the legitimate strain to which they should be subjected? How is the manufacturer to know the limit of resistance to which its buyer may want to subject a carriage?

We have in mind a race between two steam carriages at a certain county fair, and it so happened that both drivers knew considerable about boilers and engines. Each removed the mechanism of the fuel regulator so it could not "automat" and each fastened down the safety valve in accordance with Mississippi steamboat custom during the days of races and disastrous explosions. When waiting at the starting line the burners were going full tilt and the steam gauge pointer was hugging the pin for two minutes before they started.

How much steam they carried no one knows, but it was "350 and enough," as a railroad man would say. Both vehicles stood the test in fine shape, but if anything had gone wrong, the manufacturer would have been blamed for weak fittings, and his carriage condemned in consequence.

There should be a fair factor of safety between the working and bursting points of each part, but it is hardly right to expect a builder to make a vehicle which will always stand all the strain you can put upon it, in the endeavor to beat a rival.

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A meeting has been held in one of the rural suburbs of England, to discuss the advisability of purchasing an automobile with which to habituate the horses of that district to this new means of locomotion.

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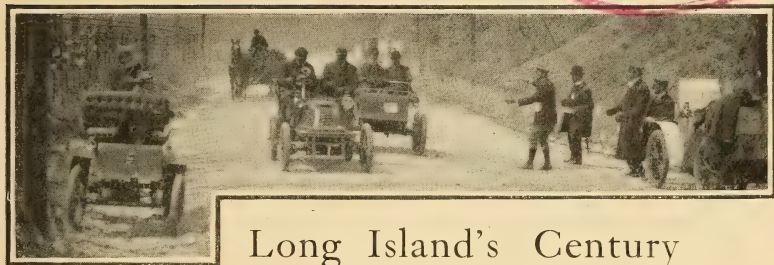
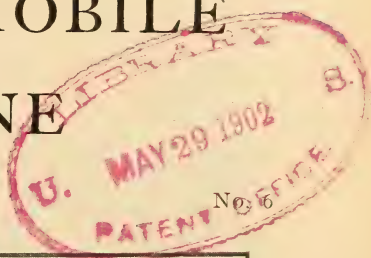


Checking Hill Climbers on Roslyn Hill

# THE AUTOMOBILE MAGAZINE

VOL. IV

JUNE, 1902



## Long Island's Century

BY FRANCIS P. PRIAL

**A** WORD or two on the Long Island Hundred Mile Endurance (?) Run, a bit of streakish description, an ingot or two of thought, perhaps, a loosely tied sheaf of fact and fancy, an aftermath of deduction and conclusion. Looking back now, when the mental and physical dust of that day had been entirely washed away, it is quite clear that the Long Island Hundred crowns with laurel primarily the promoting club, and, in another sense, the men who received the stipulated rewards, these latter deserving more commendation for holding in check the speed-impulse than perhaps for any other one thing.

For, in this day of motor car development, early though it yet be, the April 26th Century makes it certain that no very great merit attaches to any motor car capable of a leisurely hundred mile run over goodish roads largely devoid of hills and entirely free from specific ascent or descent calling for that final strain or that last high burst of speed which search out imperfection and bring the futile car to final grief. The Run proved beyond peradventure that a no-speed one hundred mile automobile amble

through fairly level country is, in these days, no tour de force, but rather a mere parade, an outing, an advertisement of the popularity and pervasiveness of motor-carism, and any self-driven vehicle which (barring of course specious accident) cannot be taken through such a run with highest satisfaction, is fit largely for the scrap-heap, is not for the salesroom, and the offering of such a car to the public were laughable, if it were not criminal; that is, criminality of the shysterian, gold-brick kind.

The run surprised in largeness of entry. The run, despite a



An interested lot of A. C. A. Members

bit of petty caviling, reflected several different kinds of credit on the Long Island Automobile Club. It was conceived in enthusiasm and managed with sustained energy. Its projection was a voluntary reaching-forth for a deal of work, criticizable, doubtful, unrequitable work. And once decided upon every available man in the Long Island Automobile Club—an effective, cohereing body of men they are—gave their all to make the event completely successful.

Of the affair itself, so much interest did it excite and so widely and exhaustively has it been photoed and written out that little now remains to be said. It is now generally known that April (26) saw her finish and like one who drowns in drink his sorrow, she went on a high jamboree. That historic Saturday night, nay



should have been a tender green day, a day of amethyst skies, and of finely spun sunshine? But no! No! No! The yelping hounds of the weather gods were unleashed all day long and Long Island was cloaked in grievous discomfort. Suffice it to say that it was a dusty, gritty, wind-worn day, one for overcoats, rubbered things and all manner and kind of protective habiliment, aided and abetted at periodic crucial moments by heating and stimulating drafts of fluidities.

There were a few major notable pictures, the start, for instance, the mile ascent of Roslyn Hill, the severely country crowd at Hempstead and, finally, the Babylon of the



At the foot of Roslyn Hill



finish. The heart of the thing was at Pettit's Hotel, in the old town of Jamaica, now legally, but not otherwise, part of New York city, Jamaica, a town of placidity, of solid undisturbable dignity, and seemingly as near the North

Pole as to the Tenderloin. The hotel itself is seared and seamed with probably a hundred winters. It was a classic in its day, and many a merry and bibulous crowd foregathered there to discourse on hogs and horses, the amenities of the trotting track, the awards of the country fair and much other gossip of the bucolic life. Even in the earliest day of cycling, Pettit's had not yet lost its halo, and "a run to Pettit's" with a teamster's dinner to boot was a thing to be rolled under the tongue days before and to be rehearsed in the club circle for days afterward. Jamaica and Pettit's, lying only ten miles from New York, exerted and still exerts the charm of a half-agricultural, half-residential country seat. And

by-the-by, since land is not sold in Jamaica by the square inch, the glory of Pettit's is not the unspeakable shoddiness enclosed by its four walls, but its obvious indeed, its only excellence is the great straggling yard which flanks it.

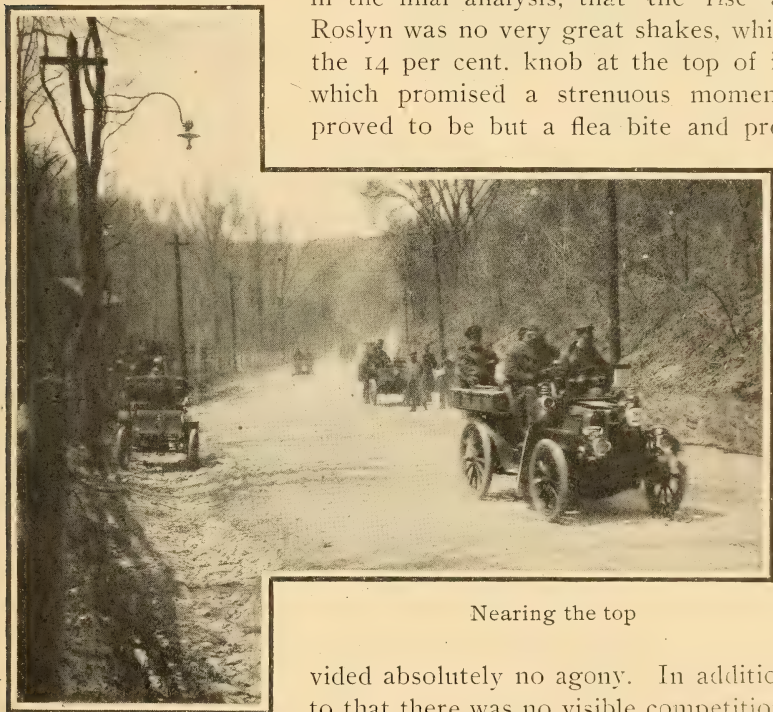
At nine in the morning those in interest had gathered at this place, a white and saffron-faced crowd, for the thing meant up and away at six o'clock, a forbidding hour surely for all city, indeed, for all thinking men. Besides, the morning was darkly cold, and the wet bluster of winds ate into the heart. At that hour a hundred machines and a thousand people were in the hotel yard. Car captains were busy putting on the last final touches of preparation. Scores of helpful men were at their beck and call. Automobile factories seemed to have debouched their practical men, fellows of oil and grime and the horny hand, fellows, real men who know how, each one as familiar with his machine as a Court physician is with the constitution of his King. These, moving hither and thither with much physical and vocal exuberance gave the cars their final grooming. It was amusing, affecting interesting, in a large way. The love of the true mechanic for the inanimate thing made for action—a gun, a yacht, a car and so on—approaches the human.

Hovering, strolling and pushing about were five score scribes open-eyed, ready-eared; also a company of camera men, a regiment of officials and observers, and finally, the fringe of purposeless loiterers, the simply curious, the mob of the open-mouthed. It was, you may be sure, an inspiring sight. The number of machines, the many styles, the tenseness of all concerned—all this spoke a big word for automobiling. As for the competitors, their enthusiasm, their anxiety was simply remarkable. They were as men going into a battle. These were of two classes, the private owner of a pet car, in which he deeply believed and was most anxious to show off, much as a groom puts through the pace a blue-blooded filly, one destined in another summer for a Suburban, for a Derby—the other class, the man of trade, the man with a factory and a ledger, who was staking and quite willing to stake his reputation on the performance of his product in the day's run.

Between nine and ten o'clock the cars had all somehow been gotten into motion, and were well on the way to glory or disgruntlement. Of the start it might be said that there was no uniformity or sequence or style. It was strangely non-military, spasmodic. But these runs are new, complex, biggish, and time and

experience will mend, improve and perfect. Later, in events of this kind, there will be more officialism, uniformity and absolutism, and, of course, less of the picturesque. Such was the start.

Through the courtesy of the Long Island Railroad, who provided a special car for the purpose, it was possible to observe the run at two interesting way points, at Roslyn Hill, twenty-two miles out, and at Hempstead, sixty miles away. The hill contest provided no excitement. It developed, in the final analysis, that the rise at Roslyn was no very great shakes, while the 14 per cent. knob at the top of it, which promised a strenuous moment, proved to be but a flea bite and pro-

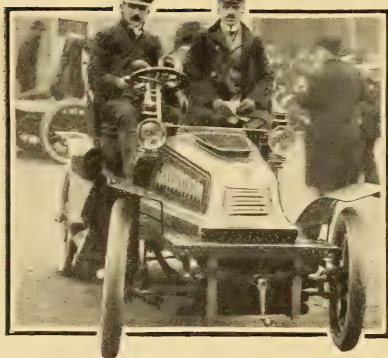


Nearing the top

vided absolutely no agony. In addition to that there was no visible competition, the final result being a matter of mathematics, and none knew who had won fast time prizes until night-fall.

At Hempstead, one merely saw the proverbial Long Island village. There was the town square, walled in with a shambling hotel, an odd tavern or two, a church and a school, the church, high-spired and immaculately white, a modest house of God. Lining this square were such Hempsteadites as had the leisure of a Saturday afternoon, a hundred or two in number, and the cars sailed through this lane of rustic humans without any very great





First in. Charles D. Cooke and  
H. Percy Maxim

thought that a non-competitor was disporting himself; but, as the vehicle rounded in front of the hotel, placard No. 3 appeared on it and the crowd gave it an excited welcome. Shortly after home, the crowd elated, the officials askant. In brief, the vehicles began now to rapidly arrive and it dawned upon the timers and judges that, unwittingly or designedly a dozen entrants had disregarded the "time limit" condition (6 hours 40 minutes for the run, a condition based on the speed laws) and had made a race of it.

As soon as this violation of the rules of the contest had been digested the officials stoically ignored all arrivals until the fixed minimum time had elapsed. It



Elwood Haynes in one of his own make

claquer or eclat. One after another they quietly came into view, sailed around the turn and passed away. The blood was not aroused.

At the finish, the crowd, official and unofficial, waited for the real work to begin, at four o'clock, or thereabouts. But hours before that time they were aroused from various time-killing devices by the breathless arrival of a car. At first it was



A. L. McMurtry's Packard

was at once bruited about that all cars arriving before the prescribed time would be disqualified, and this was afterward officially done, except that a car violating the rule only ten minutes or less was not cast into outer darkness. The general understanding that the "fast brigade" would surely be disqualified weighed lightly on the crowd and on most of the con-

testants. The former were interested and pleased over what appealed to them as "sport," while any disappointment the disqualified contestants may have felt was swallowed up in the sense of complete satisfaction that their cars had come through in fast time without accident, without development of flaw, or any weakness whatsoever, and they seemed to value that far beyond official blue-ribbonism. In certain private cases there was joy to the full, as, for instance, where A had beaten C on a purely speed basis, the contest being born of boast or claim, or of some other private circumstance. Thus it was a run degenerated, in part, into a race, with a half score of private wagers and comparisons up for settlement.

So, throughout the wasting afternoon, the cars came home, at first proudly and with triumph, later, dolefully halting, and still later, at night-fall and long after, straggling and disgustedly making their way back to the finish. At night there were clinking of glasses, much fluid and solid replenishment and over all compliment, babblement, congratulation, commiseration and explanation, with much truth and a leaven of romance.

Such was the history of the Long Island Hundred—a day of bedevilment, a strenuous drive through dust and gravel, a big collection of handsome and effective cars, an affair managed with courtesy, firmness and justice, a day of import to automobiling, a day proving that a fairly smooth hundred-mile run is meat and drink to the average motor-driven car—this run decided that. And now for more heroic contests, now for still more refinement, efficiency and beauty in manufacture.

## LONG ISLAND A. C. ENDURANCE TEST.

April 26, 1901.—(Course 100 miles)

Entries, 82; Starters, 66; Withdrawn or Disqualified, 28; Awards, 37.

## BLUE RIBBON—NO STOPS—100 PER CENT.

Vehicle.	Power.	HILL CLIMBS.	
Toledo.....	Steam.....	Rochet-Schneider.....	1:19
Pierce.....	Gasoline.....	Locomobile.....	1:42
Panhard.....	Gasoline.....	Winton.....	1:42
Lane.....	Gasoline.....	Peugeot.....	1:46
White.....	Steam.....	Prescott.....	1:50
White.....	Steam.....	Packard.....	2:03
Packard.....	Gasoline.....	Packard.....	2:06
Century.....	Gasoline.....	White.....	2:09
Elmore.....	Gasoline.....	Grout.....	2:09
Knickerbocker.....	Gasoline.....	Century.....	2:07
Knickerbocker.....	Gasoline.....	Panhard.....	2:08
Haynes-Apperson.....	Gasoline.....	White.....	2:08
Haynes-Apperson.....	Gasoline.....	Toledo.....	2:10
Autocar.....	Gasoline.....	White.....	2:20
Peugeot.....	Gasoline.....	Autocar.....	2:30
Oldsmobile.....	Gasoline.....	Haynes-Apperson.....	2:33
Toledo.....	Steam.....	Lane.....	2:34
Packard.....	Gasoline.....	Prescott.....	2:39
Winton.....	Gasoline.....	Winton.....	2:50
Winton.....	Gasoline.....	Gasmobile.....	3:05
Rochet-Schneider.....	Gasoline.....	Knickerbocker.....	3:35

LONG ISLAND A. C. ENDURANCE TEST—*Continued.*

RED RIBBON—98 PER CENT. AND OVER.			HILL CLIMBS.	
Vehicle.	Power.	P. C.	Long Distance.	
Prescott.....	Steam.....	99	Gasmobile.....	3.38
Peerless.....	Gasoline.....	99	Elmore.....	3.42
Panhard.....	Gasoline.....	98	Peerless.....	3.57
White.....	Steam.....	99	Wheel Within Wheel.....	4.04
Gasmobile.....	Gasoline.....	96	Olds.....	4.14
YELLOW RIBBON—95 PER CENT. AND OVER.			Haynes-Apperson.....	4.16
Gasmobile.....	Gasoline.....	95	Haynes-Apperson.....	4.19
Gasmobile.....	Gasoline.....	95	Peerless.....	4.45
Torbensen.....	Gasoline.....	97	Knickerbocker.....	4.53
Peerless.....	Gasoline.....	97	Knickerbocker.....	5.02
Knickerbocker.....	Gasoline.....	97	Pierce.....	5.36
Locomobile.....	Steam.....	96	Gasmobile.....	6.42
			Panhard.....	6.46
			Torbensen Gear, Ltd.....	7.22
			Toledo.....	10.42
				11.45

WHITE RIBBON—91 PER CENT. AND OVER.			VERY HIGHLY COMMENDED—86 PER CENT. AND OVER.		
Vehicle.	Power.	P. C.	Vehicle.	Power.	P. C.
Haynes-Apperson.....	Gasoline.....	93	Grout.....	Gasoline.....	87
U. S. Long Dist.....	Gasoline.....	91	Gasmobile.....	Gasoline.....	86

## HIGHLY COMMENDED—80 PER CENT. AND OVER.

Vehicle.	Power.	P. C.
Prescott.....	Steam.....	83

## GASOLINE CONSUMPTION FOR THE 100 MILES.

Vehicle.	H. P.	Weight.	Passengers.	Gals. gas used.
Grout.....	4	900	2	12
Toledo.....	7½	1,500	2	12 15-18
Toledo.....	7½	1,400	2	13 7-9
Lane.....	9	1,350	4	17
Olds.....	4	800	2	3 1-6
Torbensen.....	5	800	2	4 5-9
Knickerbocker.....	6½	990	2	5
Knickerbocker.....	5	1,010	2	4 2-9
Knickerbocker.....	5	1,050	4	4 5-18
Autocar.....	..	1,000	2	5½
Winton.....	8	1,800	2	5 5-9
Peugeot.....	11	1,920	2	5 5-9
Elmore.....	5	1,000	2	5 7-9
Peerless.....	16	1,600	2	6
Panhard.....	16	2,600	4	13

Awards hill climbing test. For steam vehicles, all weights and powers. J. M. Page (Locomobile) time 1.42. Gasolene machines, under 1,000 pounds. W. J. Stewart (Autocar) time 2.30. Gasolene machines between 1,000 and 2,000 pounds. Percy Owen (Winton) time 1.42. Gasolene machines, over 2,000 pounds, and open class. Oliver Jones (Rochet-Schneider) time 1.19.



## Going to the Races

**T**HIS is Mr. Barclay H. Warburton, proprietor of the Philadelphia *Evening Telegraph*, and Mr. J. S. Bunting, manager of Wanamaker's automobile department, about to leave Philadelphia for the races. Incidentally, it may be remarked that the particular races the gentlemen were leaving for were more than a hundred miles away at Morris Park, New York. The gentlemen took things easy, reached the races in plenty of time, saw them



and when they sat down to dinner at the Waldorf in the evening they had covered just 158 miles, without either themselves or the Fournier-Searchmont they used suffering in any way from the trip.

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### Applied Automobilitic Philosophy

"The thought of what other vehicle owners have," said the automobilist of moderate means, "never disturbs me; it is only the thought of what I haven't that occasionally makes me sigh."

## Reverages of Time

A fool there was, who toiled for years  
A certain wondrous vehicle to build,  
No doubt he entertained no fears,  
And only faith his bosom filled.

There as he labored, people came  
And watched him ply his busy tool.  
They made of him their sport and game  
And said it was just like a fool.

His plan they called a vision wild,  
A thing of naught, a rotten reed,  
The idle day dreams of a child.  
He labored on and took no heed.

Time passed; the fool grew old and gray,  
His form was bent, his eyesight dim;  
But still he wrought the livelong day  
Until at last death called for him.

The years rolled onward, one by one.  
Forgot that work of simple wit,  
Until, discerning what was done,  
A wise man came and finished it.

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## Going Out and Coming Back

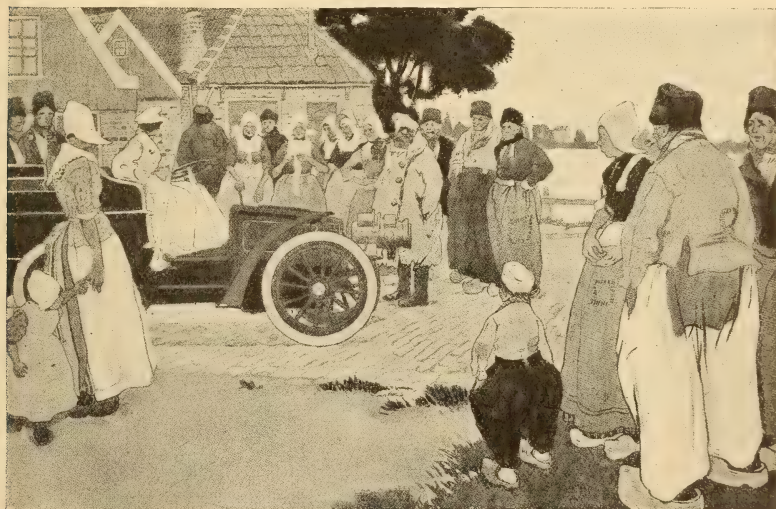
I saw 'em goin' up the road like flashin' streaks o' light,  
An' I didn't blame my good ole bay fur shyin' at the sight,  
And in the distance minglin'  
Chains an' laughter kep' a jinglin'  
Till, ter tell the truth, I felt a heap more envious than polite.  
The bay, he tried ter ketch 'em, but a wreath o' oily cloud  
Was all that in the distance told the presence o' the crowd,  
An' I says ter him: "Ole feller, tain't no use o' arguin';  
The hoss is a back number, an' the motor's now the thing."  
'Twas jes' a bit 'fore twilight when them motorers come along;  
They was goin' home on foot. 'Twas plain that suthin' had gone  
wrong.

The broken chain links scattered  
By an accident their hopes had shattered  
I never see a more dejected, weary lookin' throng.  
They all sung "Home, Sweet Home." I harnessed up an' pulled 'em  
there.  
An' when they gladly paid \$2 each by way o' fare  
The ole bay winked one ear at me an' tried his best to say,  
"The auto ain't in it, an' the hoss is here ter stay."

## Utile Dulci

(Translated from the French of LOUIS MAILLANT.)

**A**MONG the mass of mechanical and practical details with which the subject of automobilism is, necessarily, deluged, and to which the motor reader naturally turns for general information, some consideration of the esthetic side of this feature of locomotion, in conjunction with the serious, seems like a refreshing April shower on a dry road, and settles the dust preparatory to beginning anew the treadmill of continuous scientific investigation which must attend the furthering of any new movement; especially does it inter-



How Holland Greet the Tourist

est when such a phase of treatment comes from the precise pen of a practical civil engineer of recognized authority.

It may not be without interest—in the spring of the year when, like so many brilliant dragon flies, the variegated swarm of multi-colored automobiles issues from its winter chrysalis—to cast an impartial gaze around, and measure the progress already made in automobiles as well as that which still remains to be accomplished. And since the *Nice-Abazia* course will once more provoke international competition perhaps this is not an ill-chosen time in which to perpetrate comparison and criticism.

In my opinion, the characteristics required for an automobile



are of two kinds: The practical on one side, the esthetic on the other.

An automobile achieves the practical if it is solid, reliable, simple, comfortable and within reasonable limits as to price. While the Americans criticise the cumbersome appearance of the French vehicle, the latter accuse the former of the opposite fault. Less height and more base—from which arrangement more stability and less surface resistance to the air follow as a natural consequence—is the more practical solution according to the French manufacturer's idea. Yet a modification of this French construction, along the lines of the American carriage, results in a more svelt production without lessening its elegance. It is a rather curious phenomenon to note that, contrary to the evolution of the locomotive—which, at its origin, was a veritable spider-web of mechanism for lightness and tenuity, but gradually became the compact, yet beautiful, monster we know to-day—the automobile, heavy and awkward at its inception, has followed a diminuendo scale of size progression in the motor as well as the carriage itself. As it stands to-day the motor is too fragile and too complicated. The parts, that are veritable jewels of mechanism, assemble like the different wheels of a watch. The tendency is to acquire less weight at any price, and in doing so there is danger of all sorts of accidents, resulting from fragility. We should seek solidity by employing the best materials, and above all, simplicity; the complex state we are attaining we shall need an assistant mechanic and even a whole staff, well organized, to manage this polyglot system of a motor vehicle.

It is recognized that the explosion motor has arrived at a point of quasi-perfection, and that electricity alone can afford us the simplicity and other advantages which may not be hoped for from petroleum; I refer to the suppression of odor, noise and vibrations. It is true that all these defects have been exalted into advantages; the odor, as it appears, is a guide to the chauffeur as to the state of carburation; the noise warns of the approach of an automobile; even the vibrations, if we may believe them, have a special virtue of their own and a hygienic value that no other modern medicinal discovery can equal!

It is none the less true that these things are extremely disagreeable from a purely sportsman's point of view and if the unfortunate man who is obliged to endure them finds himself squeezed and boxed up in a narrow seat where the forced immobility, due to lack of space, produces gradual ankylosis of the limbs, it may well be admit-

ted that touring is a snare and delusion, with comfort withheld. And this lack of comfort is a notable feature of the present style of automobile, whereas the mechanical carriage should be a veritable home, affording all the conditions of modern comfort. Formerly they contained more seats but the traveler was none the less cramped for room; since the manufacturer gloried mostly in providing seating capacity for as many passengers as possible; seats on the back, front, sides and everywhere, without regard to the legs of the victims, till it became an actual art to nicely interlace these respective members of the anatomy without too much damage to the owners, and find them again at the end of the trip.

In these days the motor has gradually advanced in position till it has come to the front, literally. This is evidently more practical and also more esthetic, but it narrows the seats and diminishes the seating capacity. But while forced to lessen the number of seats let us at least aim at width and space in front of them; the manufacturers who have considered these points are few. Like the locomotive and all animals adapted for purposes of conveyance, the most natural usage is to place the motor in front of the burden to be conveyed, but it does not follow that, like the locomotive, each part of the mechanism should visibly indicate the rôle it has to play in the scheme, for the automobile is both locomotive and wagon and should possess an appropriate exterior shape which suggests the motor without showing it; the muscles should be indicated but not bared to view. An ordinary carriage in which, without changing the aspect at all, one would succeed in inculcating the motor soul would be a misinterpretation.

There is more necessary than a merely handsome machine: it must be graceful and fascinating, and, by its pleasing exterior of good coloring and glistening metals efface the severity and lack-luster of the mechanism. I can conceive of nothing more alluring to the beholder than these motor vehicles, with their bright and varied colors, defiling gaily along in the sunlight which challenges responsive gleams from the nickel trimmings. Do you know anything more charming than this gamut of beautiful colors when they harmonize with the artistic and specially selected toilets of the dainty feminine occupants (when the disfiguring masks and goggles are discarded)? The beautiful must be encouraged all along the line of automobiling.

Far be it from my intention to stifle any initiative attempt at construction; rather would I give free bridle to every fantasy, even

the most abracadabrant, if thereby the different types of the future motor vehicle may be sooner determined. Let us favor trials and competitive shows to encourage research and gain disciples to the cause of automobilism.

Myself, I would not award the prize to any carriage with the four wheels of equal diameter. I would prefer reviving the old manner of making the back wheels larger than the front; it is a much more logical arrangement, inasmuch as they almost entirely support the heaviest part of the carriage: the body and the passengers; therefore, as it is more natural, it is more beautiful. I would also like, combined with the motor at the front, a sort of artistic protective filament, acting as a brake at the same time, which would give a narrowed effect, prolonged towards the bottom like a spur; this would add both safety and grace of line.

Finally, since the wish costs nothing, I should like to see each automobile bearing a name or device. Why not give a simple baptismal name, at least, to this creature instinct with life and motion? It adds a personal link of almost human friendliness between the owner and his carriage, as between man and horse. We know the huge numerals—that all innate good taste revolts at—serve well enough as a method of obligatory identification, but how much better and more individual to select an appropriate name according to the type of vehicle; short and simple for the voiturette that seems to fly over the ground without touching it; something energetic and high-strung for the racing car; an heroic, sonorous title for the military transport. Then, to aphorize the situation: Tell me the name you have given your auto and I will tell you what manner of man you are. Some emblem, if you like, such as vessels bear, blazoned on the side or back of the vehicle, with the name; to my mind, those immaterial conceits add charm and poesy to our dull, prosaic age. And if ever I should one day baptize one of these motor progeny the name which would first rise to my lips, as it should to those of every chauffeur truly worthy of the title, would be the "*Prudent*."

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### Only Time Could Tell

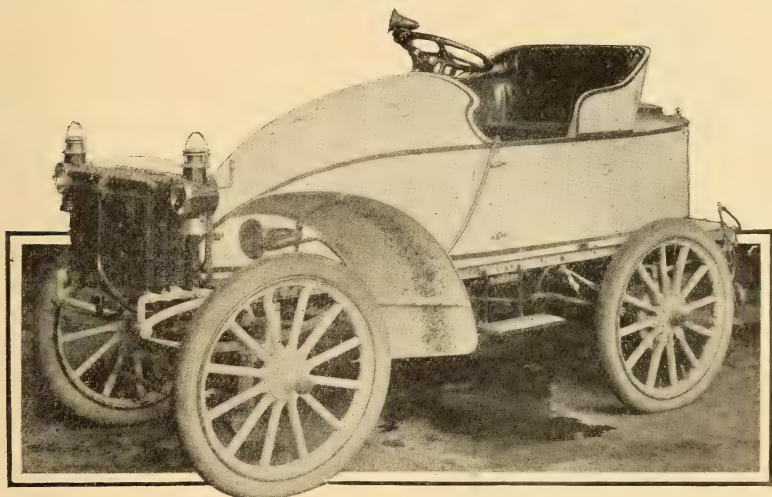
"Hey!" shouted the cycle policeman, as the man in the big racing car started to go past him like a railroad train, "ain't you riding a trifle more than eight miles an hour, sir?"

"How do I know?" howled the speed maker over his shoulder, "I haven't ridden an hour yet."



## Not an Easy "Egg" to Beat

**I**f was only in the natural order of things that M. Leon Serpollet, inventor of the famous flash boilered steam automobile with which his name is now forever linked, should at Nice last month, have come away with another of his innovations in vehicular designing and along with its appearance indulged in his annual reconstruction of the record list. This time Mr. Serpollet introduced the vehicle here shown which, in accordance with its design and the period of its appearance, he facetiously named the "Easter Egg." Equipped with a twenty horse power engine this vehicle was sent for the record and the Rothschild cup. The kilometer (.621 of a mile) was done with a



flying start in 29 4-5 seconds, which was equivalent to a speed of more than 120 kilometers (over 75 miles) per hour, a performance which will take considerable figuring on the part of M. Serpollet's gasolene competitors before they succeed in eclipsing it. The vehicle itself was bought upon the spot for \$11,000 by an Englishman who had no sooner landed it in England than he sold it for \$17,000, showing that the public is still willing to pay fancy prices for speedy vehicles.

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### What the Difference Is

"Pop, what is the difference between an automobile editorial and a screed?"

"Well, if you are a horseman and the article attacks automobiles it's an editorial; if it favors the automobile it's a screed."

## British Notes of the Month

By A. F. SINCLAIR

THE A. C. G. B. I. has done much good work for automobilism in this country, and few of its efforts have been more important or more effective than its recent manifesto to the press of the United Kingdom on the speed question. The legal limit, that is to say, the highest speed permitted an automobile by the Act of 1896, is fourteen miles an hour, but as the act confers on the several local government boards the power of reducing—under no circumstance can they increase—the maximum, it has been reduced in all the counties to twelve miles an hour.

This absurd limit on vehicles capable of covering a mile in a minute and a half has led to persistent violations of the law, which, however, in the vast majority of instances have been disadvantageous to no one. But county magnates, gifted unfortunately with more power by circumstances than with sense by Nature, who have found the slumberous quiet of their roads disturbed, and their monopoly of them for horse exercising purposes invaded by the swift and energetic *teuf teufs* have influenced the police to interfere, and the result has been the adoption of a system of traps for the unwary motorist, and prosecutions—one might almost write persecutions—all over Britain.

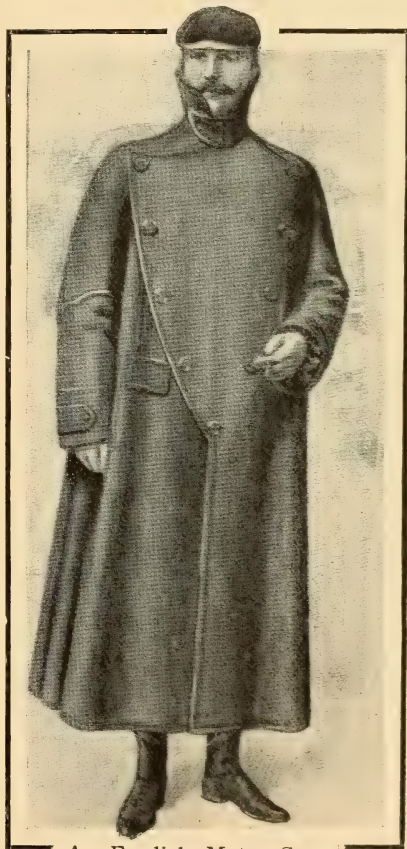
When a policeman arrests or prosecutes a man, he is not over scrupulous about the means he uses to secure a conviction, and he has been known in an unguarded moment even to swear to things that were not, but one never hears of the prosecution of such men for perjury. In a North London police court not long ago in an automobile prosecution case a policeman swore that he could cover a certain distance at a speed which worked out at something over a mile a minute, and this statement was not only corroborated by his comrade—they watch and swear in pairs—but he added that he could run even faster himself.

Convictions have been both numerous and costly, for whereas if the driver of a horse-drawn vehicle was convicted of reckless driving a fine of half-a-guinea—about two and a half dollars—would probably be levied; in the case of motor propelled cars, fines range from two to ten pounds—ten to fifty dollars. The press, also, by magnifying trifling accidents, and by perverting facts to the disadvantage of the automobilists, has been guilty of maintaining if not of

augmenting, the conservative prejudice against automobiles. It was absolutely necessary that something should be done, and in issuing the dignified manifesto mentioned the club deserves the thanks of all interested in automobilism.

The club's manifesto after expressing agreement with the opinion of Rt. Hon. Lord Thring, K.C.B., that "there is no worse law than a law which is not respected" goes on to give a summary of the brake tests held at Welbeck Abbey in the presence of local government board officials on the 11th of January as proof of the auto car's controllability, and points out that a motor propelled car going at twenty miles an hour can be stopped in a less distance than a horse-drawn vehicle going at half the speed.

It then complains of the vexatious twelve miles an hour limit, and of the systematic prosecutions for merely technical offenses to which it has given rise, and shows that this policy has had the effect of discouraging and damaging an industry, which, under the more enlightened treatment received on the Continent, and in the United States, provides work at good wages for thousands of workmen.



An English Motor Coat

A claim follows for the abolition of the speed limit, subject to such restrictions as may be necessary for public safety, and the easy identification of fast speed cars. After some remarks regarding the senseless restrictions on heavy vehicular motor traffic, it expresses the opinion that motorists should have a ready form of appeal from "Justices'" justice, and concludes by urging those to whom it is addressed to assist in securing an amendment of the law.



The signatories are the Duke of Sutherland, the Earl of Shrewsbury and Talbot, the Earl of Onslow, Earl Grey, the Earl of Verulam, the Earl of Wharnccliffe, Lord Montagu of Beaulieu, and many others, including the Lord Justice-Clerk of Scotland, Sir J. H. A. Macdonald president of the Scottish Automobile Club, and the presidents of the Automobile Clubs of France, Belgium, Germany, Austria and Switzerland.

A copy of the manifesto was sent to every newspaper in the United Kingdom, and to many influential individuals, and its circulation has already had a beneficial effect. Many of the leading newspapers devoted special articles to it, some of them advocating its views in such a whole souled manner as to suggest the automobilist behind the editorial impersonality. Even the *Times* (which by the way is referred to by a writer in one of the technical papers with that complaisant arrogance peculiar to some Englishman, and so exasperating to other nationalities as "the leading newspaper of the world") throws the whole weight of its influence into the scale in favor of the automobile, and as representative of the general press attitude its concluding remarks are worthy of reproduction here.

After referring to the manifesto as a "cogent and indeed unanswerable criticism of the existing regulations as to motor cars" it concludes: "The demand is only for fairplay for the pioneers of a new industry, for an intelligent consideration of the existing conditions of the problem, for discrimination between madcap drivers who wish to make a splash and flutter, and those, the great majority who seek to study the safety of the public. The communication which we have noticed leaves a strong impression that the industry has been kept in leading strings too long and that the existing regulations should be recast in the light of facts which were unknown or doubted in 1896." Notwithstanding the necessity for legislation, however, there is no hope of an immediate change in the law.

The legislative machine is already overburdened with work bearing on more important matters than the welfare of any single industry, and another year, at least, must elapse before any remedial measure need be expected. Meanwhile Great Britain continues to purchase from France alone automobiles worth on the average £45,000, about \$220,000 per month.

What is written above will show that the writer has every desire to concede its full measure of justice to the A. C. G. B. I. That it has done much good and useful work everyone admits, but it cannot by any means be considered as a model organization to have in its

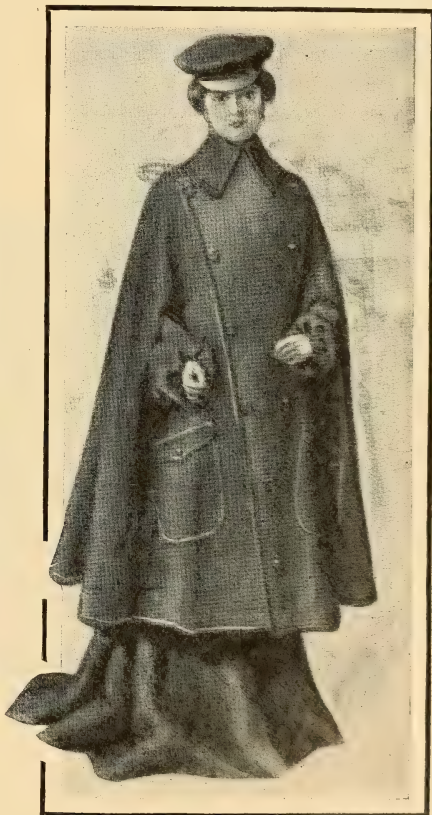
keeping the control of an important and growing industry. Any body to which admission can only be obtained by means of an exclusive ballot, and on payment of an exclusive club subscription should not have power to influence the business of automobilism.

For purposes of propaganda it is an admirable institution, but its functions should cease there. As at present constituted the club represents automobilism as a sport or pastime rather than as a business, and although the high social standing of many of its members has secured for it a hearing in quarters which would have been deaf to less prominent people, it is open to question whether greater progress would not have been achieved had the controlling body been one representative of all prepared to pay a reasonable subscription.

It is true that all the movements of the club are performed in a highly dignified and diplomatic fashion, but it is doubtful whether vigor and energy combined with ordinary business tact would not have been more useful than the qualities mentioned in voicing successfully the outcry of a strangled industry.

It is no aspersion on the club to say that some of its methods are not beyond the reproach of being unbusinesslike. This was pointed out in these pages when the judges appointed in connection with the trials last September declined to furnish details of the points on which their awards were based.

To award medals to certain cars for superiority of design, finish, or mechanism, without specifying in what respect they were superior, was to miss the whole object of the trials.



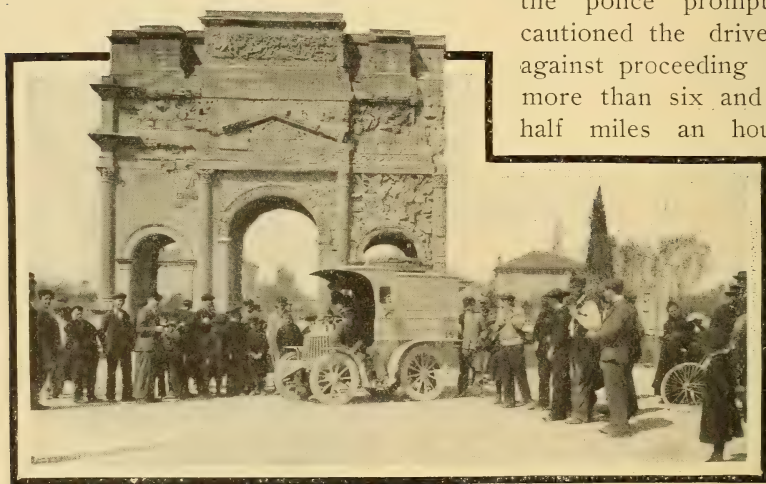
My Lady Abion's Motor Cloak

# Touring in Motor Wagons

By R. F. COLLINS

**W**HEN Mr. W. K. Vanderbilt, Jr., was driving his Mercedes down to Nice at a speed which the policeman at a certain French town thought slightly excessive, the motoring millionaire was asked to give his name, and from the card handed to him the gentleman in blue duly made out a summons for furious driving against Monsieur Junior. The automobile wagons and omnibuses which undertook a long run of 700 miles from Paris to Monte Carlo did not receive any such attention from the local authorities, until they had arrived at the gambling principality whereupon

the police promptly cautioned the drivers against proceeding at more than six and a half miles an hour,



At the Roman Arch at Orange

which was about half the average speed at which most of the vehicles had traveled all the way from Paris.

But if the speed was well within the legal limit the passengers had ample opportunities of seeing the country and this compensated for the absence of tingling excitement in rolling down mountain roads, around jutting rocks, skirting precipices, and in other ways being seemingly in constant danger. In reality the entire trip was perfectly safe so long as the control was in the hands of a cool and experienced automobilist who knew the way and kept a strong hand on the steering wheel.

Traveling in a steam van or a gasolene wagon is not, however,



quite so comfortable as doing the same thing on a touring automobile. There is nothing particularly exhilarating, for example, in finding oneself stopped at midnight for lack of fuel on a lonely road, and thereupon trying to sleep on bags of sand which constituted the vehicle's load until the desired fuel could be obtained in the morning. This happened to me on one occasion during this trip. But nevertheless the experience is one that does not often occur, and is therefore all the more interesting. Besides, one soon forgets these little discomforts and inconveniences in the pleasure of overcoming them.

This run from Paris to Monte Carlo was unique in so much that never before had twelve industrial vehicles traveled such a long distance together. It was a great educational experiment and its suc-



Arrival in Nice

cessful accomplishment brought home to many thousands of people the value of mechanical transport. From an economical point of view it was still more interesting, since it proved that heavy loads can be conveyed under the most trying conditions, over water-soaked roads and up steep gradients, very cheaply and with great regularity. The distances covered each day of this run being a little more than sixty miles.

The test has suggested one thing that might very well be taken advantage of by enterprising transport concerns in countries offering inducements for touring, and that is the profit which they could

derive from organizing long pleasure trips. Nothing could be more delightful than was the tour in gasolene omnibuses along the valley of the Rhone, dazzling with the colors of spring, under a blue sky, at a moment when Paris was swamped with rain; and over the rugged and picturesque Esterel, and along the orange and palm bordered roads of the Mediterranean coast to Monte Carlo. The vehicles were very comfortable, and they ran the whole distance without an accident of other than the most trivial kind.

With a consumption of four gallons of gasolene a day these omnibuses carry eight passengers besides a fair amount of luggage, so it can easily be calculated therefore just what profit could be made by an owner who started a service of touring vehicles of this kind through interesting districts which are not easily accessible. Even over the well-known touring routes such a method of conveyance would have a great advantage over any other, since the passengers would miss nothing and would be able to see everything at their leisure. As the costly automobile is the touring vehicle of the few so the gasolene omnibus and coach seem to me to have great possibilities as a means of creating a touring traffic for the many.

Nice, May 3.

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## Using Change Speed Gears.

CHANGE speed gears and the proper employment thereof are things which entirely too few of those who use them properly understand or even appreciate. Considering the importance of this subject, entirely too little attention has been given it in the columns of the trade press and an exhaustive article in a recent issue of the *Motor Mart* is therefore both timely and welcome. The writer of the article goes on to say:

"There is a distinct knack in changing the gearing of a car which I fear is hardly appreciated by many drivers, which fact is mainly responsible for the great amount of damage which is often caused to the teeth of the wheels of gearing of the Panhard type. That this pattern of gearing leaves much to be desired is generally admitted, and the dashing of the wheels in and out of gear while they are running does not commend the system in the eyes of those who are mechanically inclined.

"But after all, when the driver of a car is fairly smart and when the clutch is fitted with a stop to automatically either bring it to rest or decrease its speed in proportion to that of the car, the gearing can

be changed without that jarring which seems inevitable when the vehicle is in the hands of the novice or a bad driver.

"In many cars, however, no stop is fitted to the clutch, and it must be admitted that the jarring often caused by throwing in the first gear after the car has been at rest is very great. This is owing to the fact that the clutch shaft has been set in motion by the motor, which has been, perhaps, running at a rapid rate, and, as the male portion of the clutch is fairly heavy, the shaft maintains a great deal of this speed when disconnected from the motor.

"I have found that the placing of a leather-covered stop against which the head of the clutch may be pressed when the pedal is pushed hard down, effectually overcomes the difficulty of throwing the first pair of wheels into gear, and also greatly assists in changing the other gears, while, providing that the stop be made sufficiently strong and the movement of the pedal be properly proportioned, the stop may be made to actually form a third brake. Apart from these constructional details, there can be no doubt that a good many drivers of cars do not give sufficient attention to changing the gears evenly, and at precisely the right moment.

"A good many will be in far too great haste to get the high-speed gear in action directly the car nears the summit of an incline and often before the vehicle is fairly on the level, and so has approached the best pace of the lower gearing. With cars of gear-driven type this haste results in nine cases out of ten in the vehicle struggling along at a slow speed for some distance, or actually threatening to stop, in which case the low gear has to be again thrown in, thereby setting up additional and totally needless wear and tear, for it must be remembered that it is in changing the gearing that damage is most likely to occur.

"Moreover, some drivers habitually miss the changes, and, consequently, allow the car to lose so much speed during the time that the motor is disconnected, that by the time that the gearing is again thrown in, the engine has too much work to do in picking up the speed of the car.

"Few drivers seem to realize that a great deal of the power of the petrol motor depends upon the speed at which the engine is running, which probably accounts for the fact that they often give the motor more to do in the matter of driving the car faster at the very time that it is running slowly, and has not commenced to 'romp' with the low-speed gear in action.

"As a matter of fact it will always pay the motorist to thor-



oughly learn the art of changing the gearing of his car in such a manner that the least possible strain may be thrown upon the working parts. The golden rule to remember is that the engine should never be worked to such an extent that it is obviously running under the worst possible conditions.

"Better to change to the low gearing as soon as the speed of the motor drops to such an extent that its power is obviously below the normal, and not to attempt to throw in the high gearing again until the speed of the engine is once more well above the proper rate. It will be found that this course will greatly prolong the life of the motor, and that, in the end, a better all round speed will be maintained, because the car will at once get under full speed, and will not struggle along for a hundred yards or so before commencing to increase its pace to that attained under the best conditions."

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### Lament of the Poor Man

If I had but a thousand a year, Gaffer Green,  
If I had but a thousand a year.  
What a man would I be and what sights would I see,  
If I had but a thousand a year.  
I would get me an auto of latest design,  
My face with the joy of possession would shine,  
By jingo, I'd feel that the whole world was mine,  
With an auto and a thousand a year.

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Mr. Myopia, the famous coaching enthusiast, finds it difficult to forget his former love

## The "St. Lawrence" Car

THE title, sweet reader, has nothing to do with the river of that name, nor indeed with anything American, but has its origin in the name of a church dedicated to St. Lawrence away back in time obscured by the mists of "iniquity," as one old lady expressed it, when Scotland was little more than an appanage of the Church of Rome.

In some previous notes in this magazine it was the writer's privilege to describe one or two highly finished, elaborately constructed automobiles in the building of which all the modern appliances, all the necessary intricate machine tools, and some of the



highest skill and most thorough knowledge on the subject were brought into use. But all automobiles are not produced under such conditions, and although there is no doubt that the tendency of the times is in the direction of centralization, and what for want of a better word may be termed "specialism," there is still room for the individual to exercise his talents and skill. Such individualism deserves encouragement for it is from such rather from the busy workman of the overworked factory that improvements are to be expected.

It is well-known that all over the country at the present time, alike in the busy haunts of industry and in quiet villages, mechanical

ingenuity is being earnestly devoted to the construction and improvement of motor cars, but it must be confessed that many of the so-called improvements scarcely deserve the name tending as they often do to render more complex a machine already sufficiently complicated. It is therefore refreshing to encounter one of what may be called these experimental machines in which simplicity of construction combined with reliable action, have been aimed at and attained.

The car shown is the work of Mr. John Tavendale, cycle builder and engineer, Lawrencekirk, a small town about thirty miles southwest of Aberdeen, Scotland, situated on the main road from Perth to that city. Mr. Tavendale is a natural machinist as well as a trained mechanic, and when cycling was on the boom about six years ago he fitted up a workshop with modern machine tools and began cycle construction. Lately he has taken up the building of automobiles, and this car is a specimen of his work.

The car has a frame of hard wood strengthened where necessary by iron fish plates, and is carried on elliptical laminated springs resting on fixed axles. The front wheels are thirty inches in diameter, those in the rear thirty-six inches. They are ordinary Werner type carriage wheels and are fitted with solid north British rubber tires. It will be seen that the vehicle is of the dog-cart shape, but what is not apparent is its color which is a light oak shade.

The motor is a six B. horse power Accell-Turrell which was purchased ready for use, but on which Mr. Tavendale has since effected considerable improvements. It has one cylinder of four inches bore and five inches stroke, and is placed in a vertical position behind the dashboard. The bonnet which covers it may be seen in front of Mr. Tavendale's feet. It gives 1,200 revolutions per minute, at which the horse power mentioned is developed, and is, it is perhaps unnecessary to mention, Otto cycle in principle, while the crank throw is two and one-half inches. The carburettor is of the float-feed needle-valve variety and was supplied by the Endurance Motor Company. The ignition is electric supplied by a battery of dry cells. The commutator consists of a roller mounted on the half speed shaft, on the face of which is a worm-shaped slightly spiral ridge. Bearing in a leaning position against the roller is the brass tipped end of a plate lever which is hung on a pivot near its middle, and is operated by a handle attached to the steering pillar. As the brass tipped plate is moved from one end of the roller to the other, the moment of contact with the ridge is varied, and the firing regulated.



## In the Good Old Days

**W**HEN the road coaches ran from New York to Philadelphia, Albany and Boston the inns that cared for the comfort of the passengers were often named in honor of the horse. On the swinging signboards met by the travelers along the old post roads such titles as "The White Horse" were frequent, and the early American painters



Old "Black Horse" Inn near Philadelphia

in their off season thought it no lessening of their artistic standing to sketch on the signboards the prancing equine which gave title to the inn. Afterward, with railroads came the era of the commercial hotels built close to the stations, and the road houses and village inns languished or became caterers to summer boarders. The vogue of the automobile may bring back those good old days when "entertainment for man and beast" was a much more obtainable thing in non-urban localities than it is now.

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### Pegasus Has His Opportunity

"His poetry," the public complained, "smells of the lamp!"

At this Pegasus reverted to his equine side and indulged in a horse laugh.

"I suppose it's the odor of that gasoline vehicle he tied up to after I bucked and threw him!" whinnied the fabled steed.

## Some New Suspension Ideas

**T**HE prevention of vibration must not be left entirely for the pneumatic tire. Already that valuable, but not too stable, part of the automobile's equipment has all that it can do, and future efforts at the elimination of vibration must be made along other lines. The first step in this direction will, of course, be along the lines of improved springs and in this direction the new Mayback idea from abroad seems to possess other merits besides those of novelty. The principle is to place the springs relatively to the axle and the body in such a manner that the front extremity of the springs rests on the axle, the other extremity being fixed to the body, while the weight is supported by the middle of the spring.

It will at once be seen that by this arrangement the greater part of the spring is kept under the body, even when the axle is placed considerably in front of the frame. The axle is provided with guides preventing any lateral movement of the spring, but permitting a longitudinal movement.

The springs are held in their centers by clips, the upper parts of which are rounded and take a bearing in brackets fixed to the frame. These brackets are provided with arms which prevent displacement of the springs. To these brackets the axle is linked by two connecting rods.

It would seem that by this system the steering gear would be relieved from much of the strain it is usually subjected to. The designer claims that the breakage of a spring entails no danger, since the wheels are always maintained in place by the two connecting rods. This, however, would need actual demonstration before it could be accepted as being absolutely so.

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## Force of Habit

As the old mythology evolved the legend of the centaur or man-horse, so we may expect the new school of scientific romance to evolve an androcycle or man-wheel. Anyhow the centaur is entirely played out. For example, a friend of mine who rides a certain amount during one month of the year and motors a good deal during the remaining eleven, told me that the other day, having gone out on horseback after a long interval, and wishing to pass some obstacle in a narrow lane, he found himself instinctively feeling for his speed lever on his horse's neck!

# When Wagons Ruled the Road

By REGINALD BIRKBECK-BROWN



IT seems curious to think, in these days of distance demolishing automobiles, of a time when travel through this part of the country was by wagon. But there was a time when the creaking, clumsy, horse-drawn vehicle, was the only means of moving. Traveling in a ten horse power gasoline touring car to New York, recently from Baltimore, recalled what Morris Birkbeck wrote so many years ago. For instance, after having commented on the fact that Americans were a migrating people, this British ancestor of mine goes on to say:

“To give an idea of the internal movements of this vast hive, about twelve thousand wagons passed between Baltimore and Philadelphia in the last year, with from four to six horses, carrying from thirty-five to forty hundredweight. The cost of carriage is about seven dollars per hundredweight from Philadelphia to Pittsburg. Add to these the numerous stages loaded to the utmost and the innumerable travelers on horseback, on foot and in light wagons, and you have before you a scene of bustle and business, extending over a space of three hundred miles, which is truly wonderful.”

Then he was greatly struck by American manners, for he says: “But what is most at variance with English notions of the American people is the urbanity and civilization that prevail in situations remote from large cities. In our journey from Norfolk, on the coast of Virginia, to Pittsburg, we have not for a moment lost sight of the manners of polished life. Refinement is unquestionably far more rare than in our mature and highly cultivated state of society; but so is extreme vulgarity. In every department of common life we here see employed persons superior in habits and education to the same class in England.”



But Birkbeck didn't like the hotels. I remember he wrote: "Three times a day the great bell rings, and a hundred persons collect from all quarters to eat a hurried meal composed of almost as many dishes. Soon after dinner you assemble in rooms crowded with beds, something like the wards of a hospital, where, after undressing in public, you are fortunate if you escape a partner in your bed."

That's somewhat how America impressed Birkbeck. Does my contribution pass muster?

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### English As She Is Understood

In an article entitled *Étymologie Sportive* (which title translates itself), our French confrère, the *Vélo*, has exhibited a truly super-human effort to render, in his language, an equivalent in both sense and pronunciation for some of the English terms that our sporting fraternity has fitted to its own requirements. In some instances the outcome is so droll that a reproduction cannot fail to amuse, but we must add, in justice to the French intermediary, that he has bravely interpreted many of our colloquialisms and courageously offers to tackle any others he may have omitted if some reader will designate them.

The present translator, who rendered the English pronunciation of the Persian terms retained in Fitzgerald's *Omar-Khayyam*, for Mosher's "vest-pocket series," and who still retains painful memories of that struggle, is in a position to sympathize sincerely with *le Véliant*.

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### Modest

"I haven't been out since the night I got arrested for riding up Seventh avenue without a light."

"You ought to have known better."

"Truth is, I wasn't doing anything of the kind. The only trouble was I had just got the old machine warmed up and I was going so fast that the light from my lamps didn't have time to get ahead of me."

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### His Most Conspicuous Fault

The lightning bug is brilliant,  
But he hasn't any mind;  
He blunders through existence  
With his headlight on behind.



## A Study in Stopping

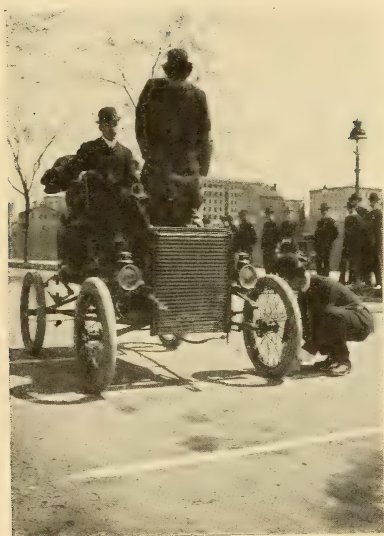
**F**OR an affair undertaken on the spur of the moment few automobile contests have been as perfectly planned and carried out as were the brake tests of the Automobile Club of America. With no preliminary announcements of any kind the public was given such conclusive proofs of the controllability of an automobile as to admit of no possible doubt of the vehicle being one which was safe under all the requirements of ordinary traffic.



By permission of the park authorities a stretch of level roadway on New York's far-famed Riverside Drive had been placed at the disposal of the Automobile Club for the purpose of demonstrating the stopping possibilities of the three popular means of locomotion—the horse, the bicycle and the automobile.

The test was perfectly fair and the conditions were such that it was impossible to favor one method of locomotion against another, even if there had been any desire to do so, which there was not. Each competitor started one-tenth of a mile away from the point where the brake was to be applied. Upon crossing the starting line the wheels of the





vehicle automatically started a stop-watch at the finishing line, which watch proceeded to time the vehicle's speed until it was stopped by the signal to put on brakes. When the vehicle was passing over some one of a number of lines painted upon the road a horn was blown and the brakes were applied. The distance between the point where the signal was given and the one where the rear wheels of the vehicle rested when it was finally stopped was then measured and the result was the distance wherein such a vehicle was credited with capable of being

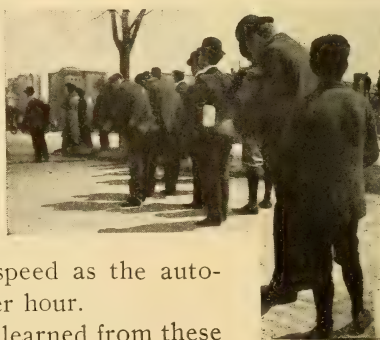
brought to a standstill.

The average weight minus passengers of all the automobiles competing with 1,395 pounds; the average of their speed during the contest was  $17\frac{3}{4}$  miles per hour and the average distance which it took them to come to an absolute stop was 31 feet, 6 inches.

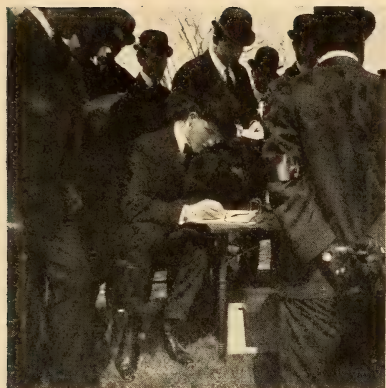
Compared with this it took a two-horse victoria while proceeding at an average speed of  $11\frac{1}{4}$  miles per hour an average of 27 feet,  $2\frac{3}{4}$  inches to stop; a four-in-hand coach traveling at an average of  $12\frac{3}{4}$  miles per hour required a distance of 56 feet, 9 inches to be brought to a standstill; while a bicycle going at an average of  $18\frac{3}{4}$  miles per hour could only be stopped when it had traversed an average distance of 66 feet, 11 inches.

To better illustrate the comparative values of foregoing averages the drawing herewith has been made after a computation of what the stopping possibilities of all the vehicles would be if they had each been proceeding at the same average speed as the automobile, that is to say,  $17\frac{3}{4}$  miles per hour.

Among the many other things learned from these







tests was that the average automobilist is very far from being a good judge of pace, particularly when he is doing low rather than high speed traveling. Another interesting comparison was the difference between the average of results of similar tests made by the Automobile Club of Great Britain and Ireland, which differences are shown in the following table:

BRITISH.						AMERICAN.					
From 11 to 14 miles per hour, 20 feet.						Average of 8 miles per hour, 8 feet.					
"	15	"	17	"	"	"	14	"	"	"	26
"	18	"	20	"	"	"	20	"	"	"	53
"	20	"	24	"	"	"	26	"	"	"	101
					24						42

Just why this wide variance should exist between the averages of the two tests is not easy to understand, since the average of the kind and make of vehicles used in both cases was practically the same, with the exception of an increase in the number of steamers in

the American tests. Figures can be made to prove many things and perhaps in the present case they will be made to prove that either the

American vehicles are not as well provided with brakes as the English ones are or the American automobilist is less expert in the use thereof. Our own opinion is that the former will be found to be nearer the true status of affairs, British laws being particularly exacting as to their requirements for the number and the efficiency



of the brakes with which each automobile must be equipped before it is permitted upon the highways in Great Britain.

TABLE OF RESULTS—BRAKE TESTS, RIVERSIDE DRIVE, MAY 1, GIVING AVERAGE SPEED AND STOPPING DISTANCES.

	Weight.	About 8 miles per hour.		About 15 miles per hour.		About 20 miles per hour.	
		Speed.	Distance.	Speed.	Distance.	Speed.	Distance.
Pierce (G).....	650			{ 15.6 13.8	{ 33' 8" 24' 0"	{ ..... .....	{ ..... .....
Oldsmobile (G).....	800	8.7	8' 9"	14.4	21' 7"	20.0	58' 6"
Locomobile (S).....	1000	7.8	5' 9"	16.3	30' 9"	22.5	51' 5"
Friedman (S).....	1000	{ 6.9 8.3	{ 7' 10' 2"	{ ..... .....	{ ..... .....	{ ..... .....	{ ..... .....
Autocar (G).....	1050	8.0	9' 10"	14.4	31' 8"	20.0	69' 3"
Waverly (E).....	1050	{ 8.7 9.4	{ 4' 4" 11' 5"	{ ..... .....	{ ..... .....	{ ..... .....	{ ..... .....
Haynes-Apperson (G).....	1200	4.5	4' 6"	{ 13.8 16.3	{ 21' 2" 36' 8"	{ ..... .....	{ ..... .....
White (S).....	1350	7.5	6' 9"	15.0	31'	21.1	75' 2"
Toledo (S).....	1400	7.6	4' 9"	16.3	34'	20.0	48' 8"
Long Distance (G).....	1400	7.6	4' 9"	15.8	25' 11"	18.9	29' 2"
Peugeot (G).....	1920	{ 6.4 7.6	{ 4' 2" 7' 11"	{ ..... .....	{ ..... .....	{ ..... .....	{ ..... .....
Panhard (G).....	2000	9.4	5' 11"	16.3	25' 4"	18.9	34' 6"
Riker (E).....	2100	11.2	43' 5"	.....	.....	.....	.....
Gasmobile (G).....	2100	{ 6.7 9.2	{ 5' 10'	{ 12.0 15.0	{ 9' 9" 22' 2"	{ ..... .....	{ ..... .....
Mors (G).....	2000	.....	.....	.....	.....	22.5	75' 9"
Packard (G).....	2500	7.2	6' 8"	13.3	26' 7"	.....	.....
Average.....	.....	7.9	9'	15.0	29	20.4	53'

31 feet



43 feet



63 feet



79 feet

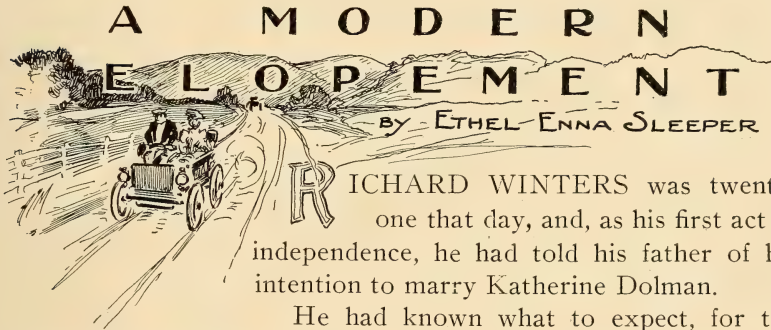


## HORSE VEHICLES.

Victoria (2 horses).....	900	9.0	17' 8"	13.8 16.3	36' 10" 77' 6"		
Four-in hand coach.....	2500	9.0	26'	18.9	90' 10"		
Average.....		9.0	21' 10"	16.3	68' 5"		

## BICYCLE.

No. 1.....		9.4	8'				
No. 2.....		20.0	61' 6"				
No. 3.....		27.6	131'				



He had known what to expect, for the girl's mother had jilted the Major twenty-five years ago, and, being, like a good many others in the world who are willing to "forgive but can't forget" the Major had never quite gotten over it, and now he frowned and muttered "Bless my soul!" While Dick in a manly straight forward way told of his hopes and plans for the future.

His thoughts went back to his own youth and the days when pretty Mary Baxter was all the world to him and for a moment he was tempted to sanction the match, but the resentment cherished all these years was not easily put aside. Here was a chance to "pay back" Mary Baxter's treatment, and his heart hardened as he said curtly "Not by a long sight young man. The day you marry Katherine Dolman you will be no son of mine, and I'll put a step-mother in your place."

"But father"— "Not a word sir! You know the consequences of such a marriage!"

"Yes, and am willing to take them," and without another word Dick turned and left the room.

The Major sat like one stunned by some dreadful blow. Had it come to this, was his severity going to bring about the very thing



he wish to avoid? Why the boy must be crazy! Going to marry and leave him for that chit of a girl, who like her mother, probably cared for money and had consented to become his wife because she knew of the Major's millions.

It was too much to be borne, and the Major paced restlessly back and forth across the room as he thought of the woman who was to have been his wife, but, who but a day before the marriage jilted him to marry Harold Dolman, a worthless scamp who had died only a year after their marriage and left her with a legacy of debt and this one child who had inherited all her mother's beauty.

They had managed to live comfortably upon a small sum left by a relative, but there was little enough money for comfort, to say nothing of the luxuries of life, and the Major smiled grimly as he thought that at least his money would never furnish these for her.

Here his thoughts were interrupted by a knock at his library door.

"Come in," he said not very cordially and there was a swish of silken skirts, a faint odor of violets and Mary Dolman entered. The Major was surprised, but he was a gentleman and after one brief second of hesitation he came forward and extended his hand to his visitor.

She shook her head, "No," she said, "I wont compel you to do for politeness sake what inclination has never prompted you to do before. I know that I ought not to have come here but there was no other way.

"Katherine must not marry your son. It is your duty to prevent it."

"I've told him so myself," replied her host, "but he is young, obstinate and"—"Hot headed as his father was before him," interrupted his caller softly.

"Exactly, exactly," replied the Major who didn't feel half so sure that it would be an undesirable thing for Dick to marry as he had an hour before.

Mrs. Dolman was certainly a beautiful woman, and as her brilliant eyes were turned upon him his heart beat uncomfortably fast, and he began to wonder if she found him much changed from the James Winters she had once known. Added to these thoughts was a little feeling of pique that she should object to his son. Why Dick was a straight forward manly fellow, with lots of push, a college graduate, and would inherit—here his thoughts stopped, he had forgotten that he had decided to disinherit him, but after all any

girl who really loved him for himself alone might be glad to be his wife without the millions that would gild life for her.

"What objections have you to the match?" and now he drew a step nearer to his caller who had seated herself upon a couch on the further side of the room.

"How can you ask that?" she said hotly. "Do you suppose I am willing my daughter shall marry the son of the man who despises her mother?" The Major's head whirled. He forgot everything but the fact that here was the woman he had always loved, and he seated himself by her side and took her unresisting hand.

"Mary," he said softly, "I've always threatened Dick that if he married in a way to displease me that I would bring home a step-mother."

The hand in the Major's trembled but it's owner made no reply, and the Major continued hesitatingly, "Mary I've always loved you, and now suppose—suppose I keep my promise, and we steal a march upon these disobedient children and punish them both by going to Parson Mason's and having him tie the knot as it should have been twenty-five years ago. There is no one to stand between us now, and don't you think you can care enough for the old fellow to atone to him for some of the years of happiness you have made him lose?" The proud head dropped lower and a flush stole over Mrs. Dolman's face, but she did not repulse the Major, as in some way his arm stole around her waist, and only ears sharpened by love could have heard the reply that made his face radiant, and caused him to urge a speedy termination of this astonishing courtship. "To-night? Marry you to-night." Mrs. Dolman lifted her head from his shoulder and stared at him aghast at the proposal.

"Yes, why not? Why should we wait for the gossips to get hold of it. We're both old enough to know our own minds, and if we don't marry, the first thing we know those two young idiots will get ahead of us, and they're no more fit to be married than the 'Babes in the Wood.' Why they're nothing but children themselves."

Mrs. Dolan agreed to this and as the Major alternately coaxed and pleaded consented at last to be married that evening.

\* \* \*

It was dusk when Major Winter's touring car wheeled swiftly up to Mrs. Dolman's door. Fifteen minutes later both parties were as rapidly wheeling away down the road that led to the Rev. Mr. Mason's.

"I'm afraid we ought not to," said Mrs. Dolman, as her eyes anxiously scanned the increasing darkness for some curious person.

"Ought not to, my dear," said the happy Major tenderly. "It's our duty toward those young rascals. They'll be more like brother and sister and perhaps out grow their foolish idea." "Not if they are like their parents," replied the little woman.

"By Jove! another party ahead of us sure," said the Major as he stopped in front of the minister's door and helped Mrs. Dolman to alight.

"Just a moment," said the maid who opened the door in response to their ring. "Mister has another, but he's most through."

There was an expression of amusement and laughter on the Rev. Mr. Mason's face as the Major stated their errand. And even after the ceremony was performed and he had received a substantial check in payment for his services the look of amusement still remained.

"What made him look and act so strangely, James?" exclaimed the newly made Mrs. Winters as they wheeled slowly away from the house.

"I'm sure I don't know, unless he thought us a couple of fools, but as we're not of his opinion it doesn't matter in the least," replied the Major placidly, as he carefully arranged the lap robe and passed his disengaged arm about the waist of his bride.

By this time the moon was shining brightly, and the Major suggested that they prolong their ride as it was still early in the evening.

They found plenty of subjects for conversation, but before they had gone far their attention was attracted by a second automobile, which passed them at a furious rate of speed.

The Major leaned forward a little, his eyes fairly bulging from their sockets.

"Great Scott!" he cried hoarsely, as he gazed after the fast disappearing machine. "There go our children!"

Mrs. Winters clutched his arm, "They are running away," she gasped, "Oh, James follow them and put a stop to their marriage." "I'll do my best," cried the Major, "but they've got a confounded good start and it will be a long chase."

Major pushed the speed lever over to the limit and the automobile gave a sudden plunge forward and then a trail of dust following in its wake, it went down the hill at a pace that fairly made the couple hold their breath.



On, on speed both auto's, one mile, two, three, five, ten were passed and the Major was evidently gaining upon the leading vehicle.

"We'll have them yet," said the Major gleefully, "and I'll teach them to lead us such a chase as this."

His new made wife smiled faintly. Her nerves were wrought up to a pitch of excitement that prevented her seeing the absurdity of the situation.

"Oh!" the Major gave a start of surprise and his wife screamed with excitement.

Manifestly something had gone wrong, the leading automobile rushed aimlessly about for a second and then quickly tipped over, landing its occupants in a brush heap by the side of the road. The Major caught a glimpse of two white faces, one of them with blood streaks upon it as he whirled past.

"Oh, stop, please stop!" moaned his wife.

"I can't," said the Major huskily, "this damned machine with its ninety-seven different automatic fixin's has got beyond my control, and Satan himself couldn't stop it until it gets ready!"

Mrs. Winters began to sob. "Don't Mary," he urged. "Don't take on so dear. It breaks my heart to hear you."

"But the children!" she cried, "What will become of them? I'm afraid they are terribly injured. Oh, what shall we do?" and she wrung her hands despairingly.

"Keep cool the speed we're going can't last forever. We must stop sometime. Let me see, the road makes a sort of loop here and if I can manage to guide this devilish concern into that, we shall come out on the main road again a little back from where the accident to the children occurred."

The Major now bent all his energies toward turning into the desired road and finally succeeded in doing so, and in an incredibly short time they were back at the scene of the accident. Then to their amazement the motor suddenly quit and the vehicle stopped of itself.

The Major sprang from the carriage as soon as it came to a standstill and Dick who recognized him immediately threw one arm protectingly around Katherine while he stared at his father and cried defiantly, "You can't separate us now for we're married?"

"Very well sir, you know the consequences," replied the Major coolly, as he assisted his wife to alight. Half crying Katherine threw herself into her mother's arms and of course was wept over, kissed

and petted, while the Major laying his hand on Dick's arm said half affectionately, half sternly, "Well sir, I've been as good as my word. I said I'd put a stepmother over you and here she is! Allow me to present Mrs. Winters."

With Katherine still clinging to her that lady bowed graciously and extended her hand to Dick who took it mechanically while he murmured, "I wonder if I hurt my head in that smash-up?"

Katherine laughed merrily. "Oh, Dick, Dick!" she cried, "Can't you see that it is all right? Mamma has married her old love, and now everything will be lovely," and she fell to kissing her mother, while Dick now partly recovered from his astonishment grasped both the Major's and Mrs. Winters hand, and while he shook them heartily said earnestly, "You have my heartiest congratulations, and had I know of this earlier the accident might have been averted. You see," he added smilingly, "we thought you were after us and naturally tried to get out of your way."

"And so we were," cried the Major, "and would have had you, too, if that confounded machine hadn't got out of order! But it's all right now. Seeing I've married her mother I suppose I must forgive you for falling in love with Katherine," and he laid his hand on the girl's head as he said gently, "Only be good to him my dear, and make him as happy as your mother has me, and I shall ask nothing more."

Of course the wedding was a nine days' wonder, and their country neighbors commenting upon it said the "Widder Dolman knew which side her bread was buttered on, and had done well for herself and her daughter."

As for the Major and his wife they never regretted the hurried match that brought them so much happiness, while Dick and Katherine were equally content with the rule of the gentle "step-mother."



## For Globe Girdling Purposes

**T**HIS is the \$15,000, 30 h. p. Panhard in which Dr. E. E. Lehweß and seven assistants have started on an attempt to circum-motor the globe. The name of this very original Panhard made affair is the "Passe-partout," for what reason no one seems to know. Freely translated this means latch key or a passport. In the illustration Dr. Lehweß is shown at the wheel, the mechanic-in-chief is next and adjoining him is the chef. The lady back of the



doctor is his wife, who, however, prefers home to passe-partouting around the world and will not accompany him. The instigator of the trip is a British paper heretofore more famous for its pictures of notoriety loving females than for its devotion to automobiling.

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### No Occasion for Grief

If a scorcher meet a scorcher  
Whizzing on the fly,  
And a scorcher hit a scorcher  
No one needs to cry.



# The First Road Engine

By ANGUS SINCLAIR

**T**HERE is a popular belief that the steam engine was first applied to land transportation by using the crude tram roads used in England for hauling coal from the pits to shipping wharves, but that view is not correct. Those who first conceived the idea of using the steam engine for land locomotion expected to use common roads for their carriages.

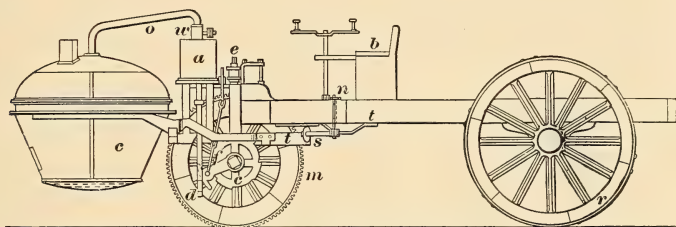
Many of the most important inventions employed for industrious purposes originated in attempts to improve the weapons and appliances used in warfare. The development of the art of steel making was fostered during ages of general ignorance through the demand for sword blades that would endure the hardest clash of battle without breaking; skill in working cast iron was fostered and developed in the casting of cannon, and the art of having these taught mechanics how to bore cylinders that were practically round and suitable for the movement of a steam tight piston. Skilful and artistic blacksmithing were cultivated by the forging of weapons and the construction of armour. The manipulation of metals and the mixing of alloys for military purposes laid the foundation of metallurgical science which afterwards achieved unparalleled triumphs in the arts of peace.

It seemed only by a mere accident that military enterprise failed to make the high pressure steam engine the first success for land transportation.

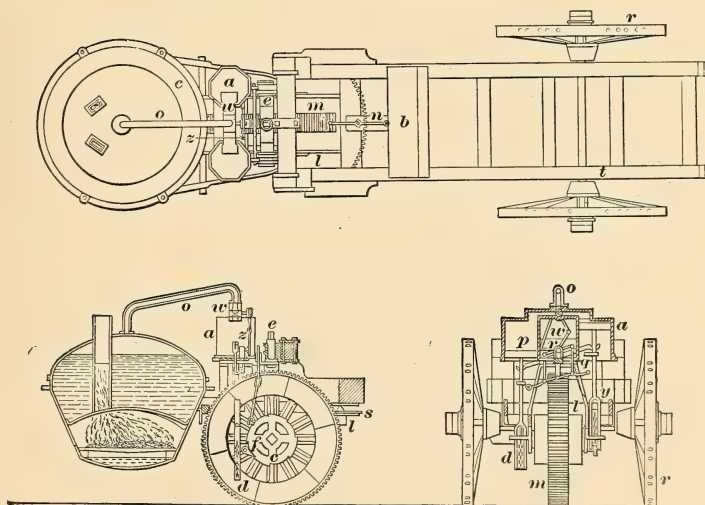
In the year 1769, when Watt was trying to improve on Newcomen's atmospheric engine by using a separate condenser to prevent the loss of heat that resulted from condensing the steam every stroke in the main cylinder, Nicholas Joseph Cugnot designed and had built in Paris a steam carriage which he supposed could be used as a gun carriage. The carriage was tried in the presence of the Duc de Choiseul, Minister of War, and other influential courtiers of the French government. Like most first attempts this steam engine was not a success, but the inventor was encouraged to try again and he produced a second engine which is still preserved in the Conservatoire des Arts et Metiers, Paris, a museum where a great many interesting engineering inventions and curiosities are preserved, some of them being of particular interest to Americans. I have examined the engine very carefully several times and consider that it was a wonderfully well designed and substantially built motor, much supe-

rior to the first high pressure engine built in England thirty years afterwards.

Cugnot's engine, shown in the annexed engravings, is a tricycle with a heavy frame consisting of two strong wooden beams set parallel and extending from end to end to which the wheels and running gear are secured in a most substantial manner. The single wheel is in front and carries the engine and boiler. It has blocks



- Cugnot's Locomotive, 1771.



on the periphery for the purpose of biting the ground and preventing slipping—a very necessary arrangement for the adhesion would not be sufficient to hold down much tractive force. The single wheel is turned by two single acting engines, one on each side, which operate ratchets that convert the reciprocating motion of the pistons into rotary motion. This arrangement was tried by several improvers of pioneer steam engines afterwards before they realized that the crank,

whose action in connection with the turning lathe is as old as civilization, was the simplest way to convert to and fro motion into circular motion. To me the boiler seems to be the most defective part of the apparatus. It is made in the form of the cooking caldrons used in the kitchens of feudal castles in olden times. As may be noted the vessel is a section of truncated cone made of copper sheets riveted together. At the bottom is a small furnace which was undoubtedly too small to generate steam for more than a few minutes at a time when the engine was working, and this shortcoming doubtless demonstrated that the motor could not perform the work it was intended for.

The wheels are of the kind that were used for field artillery in the Seventeenth century and are very strong, as might be expected, and the whole of the running gear and engine connections were evidently made to endure rough usage. The pioneer locomotives and automobiles or road steam carriages built thirty-five years afterwards in Great Britain caused great annoyance, expense and delay through the parts being too weak; and failures happened so frequently that many people were convinced that steam carriages for common roads were impracticable, with the result that the introduction of steam into land transportation was delayed for years; but there was no fear of Cugnot's carriage breaking down on account of structural weakness.

The political troubles that were brewing in France about the time Cugnot's carriage was tried gave the military engineer something to do which was considered more important than the work of experimenting with a steam engine. Cugnot lived till 1804 and saw other forms of steam engines made a commercial success.

So far as the mechanical part was concerned Cugnot's high pressure steam engine possessed all the valuable elements of high pressure steam engines that were afterwards made successful by others. Cugnot, like our own Oliver Evans, worked out the problem of improving the Newcomen atmospheric engine into a high pressure steam engine. Had Cugnot been an Englishman he would to-day be credited with being the inventor of the high pressure steam engine. But having been a Frenchman, encyclopedia writers ignore his name while recounting the history of the steam engine. In spite of the very important engineering work which he began, Cugnot's name is not to be found in any American encyclopedia.

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The faster a man's pace the sooner misfortune overtakes him.



# “Twinkle, Twinkle, Little Star”

(Autoist's Version.)

*“Twinkle, twinkle, little star”—*  
I'll “hitch my wagon” to you—  
Try you on my motor-car,  
If you don't mind—now *do* you?

*“How I wonder what you are.”*  
And all the other fixings,—  
Placards white, etcetera:  
Municipal restrictions.

*“Up above the world so high,”*  
No “copper's” eye to trace us—  
Fournier's record we'll defy  
And beat old winged Pegasus.

*“Like a diamond in the sky”*  
Shine out;—though blinded with thee  
I'll not steer the thing awry,  
So falter not, I prithee.

*“When the blazing sun is set,”*  
And there's a chance to try it,  
Round the moon we'll *scorch*, you bet!  
And when we're fined deny it.

*“When the grass with dew is wet,”*  
And swift the traveler hies him  
From the shades that fear beget  
And spies that may surprise him.

*“Then you show your little light,”*  
Among the spheres to guide us,  
Proving, at such giddy height,  
A real *Achates-Fidus*.

*“Twinkle, twinkle, all the night.”*  
With joy your twinkles fill me.  
But dread thought!—what awful plight!—  
If here my auto spill me.

A. I..

## Two for Twenty-Two Thousand and Vienna

**M.** A. P. tells this story concerning the sudden conversion of an American millionaire to automobilism. "How much?" asked the millionaire, pointing to a Frenchman's car in the Promenade des Anglais at Nice. "Sixty thousand francs," was the reply. "I will take it," said the American. "I have another car," the Frenchman remarked. "How much?" "Fifty thousand francs." "I will take that, too; and now I want a chauffeur. I have never been on one of these machines yet." The Frenchman thought his own man might like to enter the American's employ. "Then send him with the best one of the two vehicles to my hotel in an hour." At the appointed time the newly bought car was at the hotel, and the American came out to meet it carrying a small handbag. "Where to?" asked the chauffeur. "Vienna," was the reply, and without a word the car was turned Viennawards.

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### When Father Tries

Oh, there's sulphur in the kitchen  
And there's brimstone in the hall,  
While oaths, loud and portentous,  
Ricochet from every wall;  
The women walk on tiptoe  
Lest they feel effects of ire,  
For father is attempting  
To repair a punctured tire!

Oh, the baby's gone to gasping  
And each breath seems like its last,  
For it's swallowed half the stickum  
And its insides are glued fast;  
Little Johnny's lost the rubber  
In his wish to help the sire  
In his wild, misspent endeavor  
To repair a punctured tire!

Oh, the gasoline for cleaning  
Has exploded with a flash,  
And the tub, for tracing bubbles,  
Has tipped over with a splash;  
Hush! 'Tis finished! Now he's pumping—  
"Failed to stick!" and through the mire  
To the tire man now goes father  
With his still deflated tire.

## It May Happen

By JEAN DES BOISÉNEY

“GENTLEMEN and fellow rough road riders,” said the presiding officer in his opening address at the annual convention of the Almagamated Association of Aggressive Automobilists, I have to place before you for your consideration and action a communication of some importance which has been received from our friends the enemy, the Proud and Protective Order of Pedestrians, composed, I believe, of people who still have not seen the error of their ways in seeking muscular rather than motor power for transportation purposes.

“As you will remember, gentlemen, we passed a law at our last annual meeting prohibiting automobilists from running down foot passengers or even scorching by them close enough to warrant apprehension. I am pleased to state that it has been most zealously carried out! This petition is the result! Humble and tearful in tone, actually abject in places, it respectfully asks that we repeal the law and let things be again as they were in the old days when men took their lives in their hands when they ventured out on foot!”

“What is the matter with the law, Mr. President?” asked the member from Coxsackie in amazement.

“Why, everything in the world, it seems! The petition claims that the alarming increase in divorces, riots, homicide and crime of all kinds during the past year is directly attributable to this law! To quote from the preamble:

“The wicked passions and bestial tempers inherent in man found safe and lawful outlet in damning and denouncing, cursing and condemning, vituperating and vilifying automobilists. The inability of pedestrians to make enraged outcry against automobilists dams this channel, and the passions and tempers thus pent up come in time to flood private and public life, sweeping away peace and happiness and leaving woe and discord behind to mark its path.”

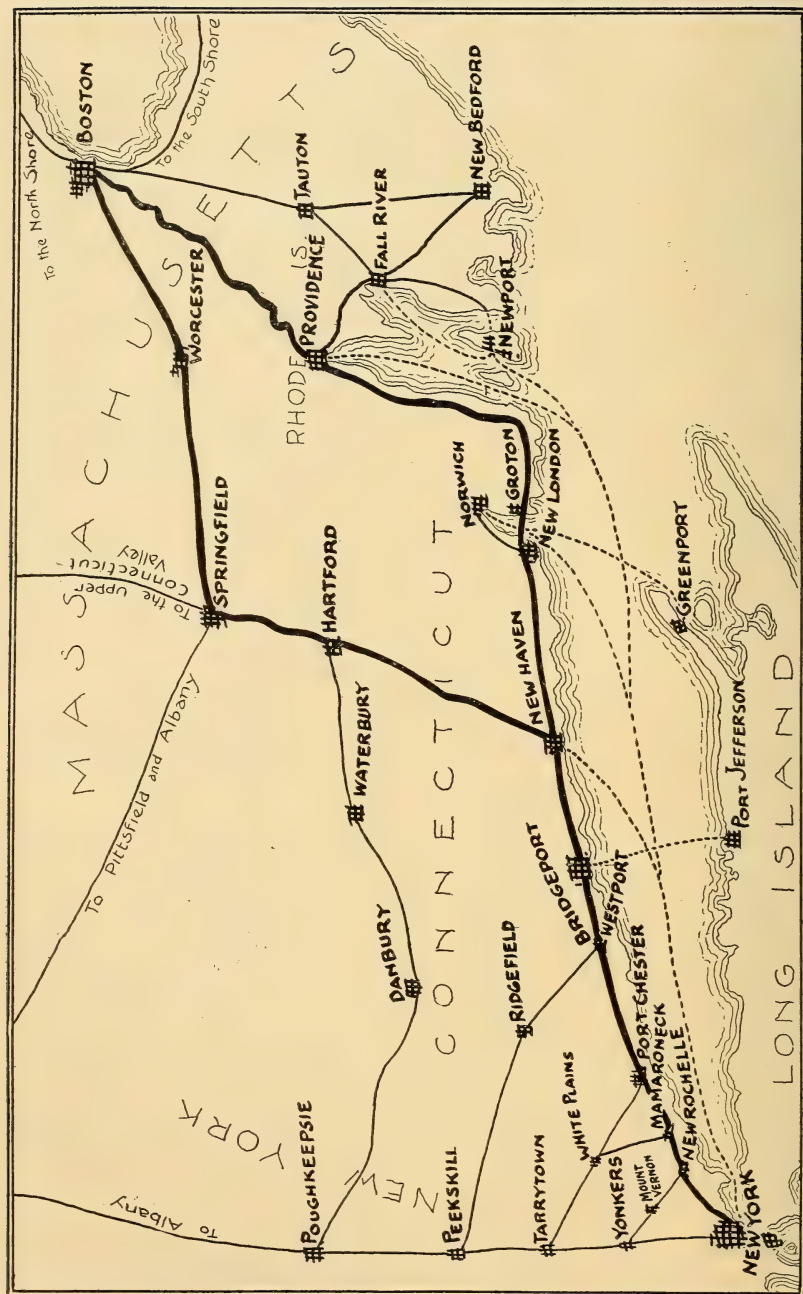
“Merciful heavens!” shuddered the member from Oskaloosa, “I move to repeal the law.”

“The motion is unanimously carried!” announced the president after balloting. “Gentlemen, the vote shows tenderness and humanity and does the automobilist proud.”

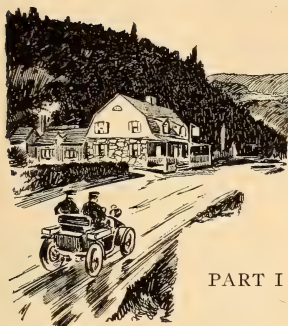
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Some people never accomplish anything in automobilism because they have too much patience with themselves.





# Touring Department



## New York - Boston Route

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PART I: THE METROPOLITAN-LOWER HUDSON-NEW  
HAVEN DISTRICT.

**O**F the various ways out of New York to the North and East, few are continuous good thoroughfares for automobiles; and concerning these opinions will differ. When, therefore, one comes to the task of naming a certain definite route in preference to all the rest, he is bound to provide that which is not only worthy of itself but well-placed with respect to the others. So the base-line of the first stage of the present association of tours (not one but many in one), is established well up, with a recognition of the good roads leading to or past it, instead of following one chosen exit and its connections into the country.

Fordham Road and Pelham avenue form a continuous, though at times a "jointed" thoroughfare east and northeast from the Harlem River at Fordham Landing until near to New Rochelle on the Sound. Either one or the other is crossed by every through route into the northern suburbs, and together they are a complete connection between the Albany Road and the Boston Road, almost entirely within the limits of Greater New York. Beginning at the water's edge close by the little railroad station, Fordham Road comes up immediately to (a) Sedgwick avenue, just below Webb's Academy and Shipbuilders' Home, intersecting there the New York-Albany route (No. 1 of this series, published May), which leads up past this building, on to Kingsbridge, Yonkers and the north. Within five minutes' of riding it cuts across a number of streets and avenues, among them (b) Aqueduct avenue, from the upper West Side, via Washington Bridge; (c) Jerome avenue, from Central Park and above, via Central Bridge, and (d) Webster avenue and its straightaway connections from lower Harlem points.

This long cross-road is all clear except that for the space of one

or two blocks, One Hundred and Eighty-ninth street comes into the same thoroughfare, and for the moment usurps its identity in so far as lamp-post signs are concerned. Here the first impulse (particularly if going eastward at speed), is to continue with One Hundred and Eighty-ninth street. Nevertheless, keep to the left, in which direction a special large sign points the way to the Zoological Park. This will bring up and into Pelham avenue, over the lowered tracks of the Harlem railroad (Fordham station), and under the elevated railway. Immediately to the left are the buildings and grounds of St. John's College, while straight ahead the outlines of Bronx Park appear. Continue to the Park and cross without break or turn, noticing at once as you go out a roadway leading diagonally off to the left, not so wide or as pretentious as the one which opens up even broader and better straight ahead.

This point—officially Bronxedale, in reality not much of anything—is a parting of the ways for about fifteen miles. The diagonal road to the left, the straighter and shorter of the two, is the Boston Post Road, the all-inland way to New Rochelle; the other, the more modern, parkway-and-shore (Pelham Bridge) route to the same place. If you wish to exchange the town for the country at once, and to throw directions to the winds for awhile, take the Boston Road, which is fair-to-good going. In this event you are all right into Main street, New Rochelle, except for the single care to keep right ahead where the double car tracks come over from Mount Vernon into your road.

The outside and more picturesque road is straight ahead out of Bronx Park, although it gradually bends eastward and brings up into Pelham Bay Park, thence by a broad turn to the bridge over East Chester Bay. The Department of Parks has this section now in hand, and there may possibly be some little interruption in getting through, but nowhere a stoppage. Across the bridge (Bartow station over to the left), the road to City Island leads east. Do not take this, but finish Pelham Bay Park on the same road, passing Hunter's Island and going over the Greater New York line into Pelham Manor. All the summer long, the nearby waters are alive with pleasure craft. It is now a stretch of rock-bound coast-line, leading past the entrance to Traver's Island, the country home of the New York Athletic Club. The Pelham Road finally gives way to Center avenue, which take, by a turn left, into Main street, New Rochelle.





In an earlier paragraph it was shown how (a) Sedgwick avenue, (b) Aqueduct avenue, (c) Jerome avenue, and (d) Webster avenue—all through connections from Manhattan—cross the Fordham Road. Likewise, its other self, Pelham avenue, intersects the (e) Boston Post Road which, with a stretch of Third avenue, reaches back to the Harlem River. A little farther on, the (f) Williamsbridge Road crosses nearly at right angles, connecting with Williamsbridge, Westchester and intermediate points. Finally the whole Westchester district (including Unionport and Fort Schuyler), is linked with

Pelham Bridge Road by (g) the Eastern Boulevard and its connections. These last connecting routes were not listed with the first series for the reason that one would not ordinarily take any of them out from Manhattan, since the facilities for reaching them from below are inferior. However, there are many automobilists living in Westchester and thereabouts who, by starting from their homes, avoid the cross sections below and enter the Pelham district on equal terms with those who come up on the Fordham Road. The same thoroughfare across the upper city—our original base-line—sooner or later accommodates them all.

Once in New Rochelle, by either the Boston Road or by Pelham Road and Center avenue, go straight through the city on Main street to Larchmont and Mamaroneck. Entering Mamaroneck, turn right at the fountain, immediately over a short stone bridge and up an easy grade, again clear of car tracks. Two or three miles out, there is a fork where one sign-board points left for the "Old Post Road," and right for the "Boston Post Road," the latter of which take (down-grade) toward Rye. It is possible—and on the whole best—to cut Rye out entirely. This is done by another right turn at the edge of the town, going uphill and around; but if you do down, take Purdy avenue out. In either case, cross over the railroad tracks immediately above Rye, at the same point where the electric cars out from Purdy street turn back into the country. The highway, however, continues straight on, entering Portchester (twenty-



eight miles) by a left bend under the railroad tracks and up into the center of the city. All the way it is splendid countryside, with ever-increasing promise of open country beyond.

Though direct from New Rochelle, the road has been winding and rolling. The going is good, except that here and there a stretch of macadam has been improperly put down with the result that bushels of small, sharp stones work loose. Brick pavements are more or less in evidence, particularly between car tracks, even where there is macadam alongside. For little of the time in sight of the water, it is still plainly a shore road, now and then a piece of it cut through solid rock. Of cross-roads there are legion—many of them better posted than the main thoroughfare. Pay no attention to them, however, except, perhaps, as a means of “placing” other points and routes. Likewise ignore the directions the street cars take.

The building of the Mutual Trust Company of Westchester stands at the parting of the ways in Portchester, with the road to the Connecticut line leading out to the right of this building. The Byram River, a small stream—not only the interstate boundary but the end of the Westchester road system—is soon crossed. A half mile beyond Portchester, take the right fork toward Greenwich (left fork leads inland to Glenville). There is one bad spot on the way to Greenwich where the snow and ice from the rocks above come down and carry away the surface improvements, closing the road altogether at times in winter. This stretch is soon to be put in permanently good shape, however.

It is straight on to Greenwich, through the upper part of the village, down “Put’s Hill,” so-called in honor of General Israel Putnam who, on February 26, 1779, cut off from his own soldiers and pursued by British cavalry, galloped down its steep side to freedom. This hill—the worse one on the run—has been graded down at the top and built up at the bottom within recent years, and can now be taken by most automobiles either way. East-bound, one has its grade in his favor anyhow; and if there is any apprehension of difficulty the other way, a short detour nearer the shore will avoid it altogether. Take either the direct road to Mianus or else turn right to Cos Cob and come up to Mianus alongside Cos Cob harbor. The latter is the most attractive of the two and is but a short distance farther. Cross Mianus bridge, go up hill (good dirt roads in place of macadam), over good roads direct to Stamford, thirty-six miles. Enter by East Main street, and at the very center of the city pass over into West Main street, which keep until it brings up to the



Noroton River. In so doing you bend through the eastern section of Stamford, cross under the railroad tracks and pass many fine country homes.

After crossing the Noroton River, it is straightaway to the Norwalk River, through Darien and Norwalk. South Norwalk, the better-known railroad point, is not touched. The roads—principally Connecticut avenue, as this particular portion of the Boston Post Road is locally called—though fair going, are not so good as the ones left behind. There is an exceptionally fine view just before entering Nor-

walk. From the last hill on Connecticut avenue (its passing none too good), you look down upon this trim New England city, also to South Norwalk below, with the Sound and the Long Island shore in the farther distance. The actual entrance into Norwalk is perfect going and one to be remembered. Connecticut avenue brings you from the country into West avenue, which follow into Wall street and (by right turn) over the arch across the Norwalk River. Once across, bend left at once on East avenue, only to turn right in two or three minutes into Westport avenue, straight to Westport, over fair-to-good country roads. This town, of scarcely any importance or interest in itself, is yet a sort of hub for local routes, besides being the point where the connecting road from the Hudson (Peekskill its western end) comes into the route along the shore.

Go straight over the bridge at Westport and on to Southport. Here the road makes a right turn, goes under the railroad, running more or less parallel with it to Fairfield, through which it makes a broad bend. One is by this time on Fairfield avenue which (after another crossing under the railroad near the western end of the track elevation) leads into the center of Bridgeport, across Main street and down to the New Haven depot. For the past twenty miles the roads have been mostly of dirt, in fair condition, about equal for automobile riding to the average of country macadam. Small signs, put up by an enterprising dry goods house, point the way.

Within a few months the vicinity of the





depot in Bridgeport will be greatly changed, and a handsome stone viaduct will carry the road over from the foot of Fairfield avenue into Stratford avenue, then more clearly even than now, one thoroughfare except in name. At the present time, cross the many tracks at grade, go over the bridge and straight ahead onto Stratford avenue. The railroad tracks are to the left and the Sound to the right. After about three miles, the road turns left, which follow up to but not into Stratford. Instead, turn right at the fountain and go on five miles or so over somewhat poorer roads to Milford, crossing the Housatonic River in so doing.

A system of street railways connects Bridgeport with New Haven, and the signs of these termini are boldly displayed on each car. There is an element of temptation in this for the unacquainted tourist who may be weary of watching where he is going. Nevertheless it would be well-nigh impossible to find more trouble with less difficulty than to yield. Though at times on the highway, these lines take in all the shore resorts, going over trestles, through woods and around every kind of obstruction native to the district. Indeed, in case of doubt, the safer proposition is to go away from rather than with the trolley.

Coming straight into Milford, the highway divides on either side of a narrow street park. Once in the town, there is another parting of the ways, which determines one's course for the rest of the way to New Haven. The least often used and the roughest, though a perfectly straight road, is reached by passing under the railroad tracks and up to the Milford turnpike. This leads overland direct into Congress avenue, New Haven, by a line shorter even than the railroad mileage. However, the shore road, with its added distance and many crooks and turns, is most universally used by automobile tourists, to whom miles are of less moment than road conditions. To reach the shore road, do not cross the railroad tracks but, when down town in Milford, turn right, up to the Memorial Bridge (the names of distinguished citizens cut in stone blocks), uphill and straight out. Again you go for a short distance with the trolley line, but leave it where it turns off into the country. Farther on, where the condition and appearance of two forking roads would confuse, a large sign directs left for New Haven. Woodmont village—a collection of small houses—nestles close to the shore, about three miles out from Milford. The railroad station is off to the left, but in sight. Avoid going down into Woodmont

village by making a bend to the left. From this point the road into West Haven is very near the waters, and one cannot miss it if he will only hold to the shore road through all of its windings to Savin Rock, West Haven's Sound resort.

Enter Savin Rock by the road which leads upward between the two largest hotels and bends around into Savin avenue. From here into New Haven the roads suitable for automobiles are far from straight, and none too good at best. Take Savin avenue to Main street, to First avenue, to Elm street. Follow Elm street until it brings up into Kimberly avenue. The latter takes you over a road (largely a built-up road), over the lowlands of the Sound. Keep Kimberly avenue until it comes into Howard avenue just at the crossing of the bridge over the New Haven tracks. Keep Howard avenue into Congress avenue (the New Haven County Hospital on the northeast corner); then Congress avenue direct into Church street and up Church to the corner of Chapel street and the center of the city. As an alternative, keep the shore through and beyond Savin Rock, around to First avenue, into Elm street and on as before. From Elm street the route is almost entirely alongside street car tracks and over variously paved streets. Nevertheless it is the best way to reach New Haven from the western end. It is one hard days' run, or two easy days tour from New York or lower Hudson points. The distance is eighty miles, but rather more than less. Stamford, (thirty-six miles), Norwalk (fifty-four miles) and Bridgeport (sixty-two miles) are cities with suitable accommodations for men and machines en route.

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## Looking Toward Boston

### HELPS IN PLANNING THE EASTERN TRIP

**T**HE outline map of the routes from New York to Boston in this issue show the two principal all-highway trunk lines between the two cities, as well as the main connections from the lower Hudson country and Long Island Sound. It will readily be seen from this that one who is starting eastward from Poughkeepsie or below may do so without coming to New York. This is an item of useful interest not only to automobilists living in the northern suburbs, but also to others wishing to change over from the Albany Road to the Boston Road or vice versa, bridging over, as it were, the Metropol-

itan district. Yonkers, Tarrytown, White Plains and their environs are at least on equal terms with the metropolis in this respect, since it is possible to go from any one of them across to New Rochelle, Mamaroneck or Portchester over good roads; and from Tarrytown the distance is even less.

From Peekskill across to Bridgeport is about fifty-four miles, and fair-to-good going, through Yorktown, Somers Center and Purdy (N. Y.), Ridgefield and Westport (Conn.) This is a safe enough trip in case one wishes to start from the Peekskill district, but it would not ordinarily be made an object in itself. One notable feature of this cross-route is that it really ends, not at Bridgeport, but at Westport; but as usage has established Westport as a way station rather than as a terminus, less confusion in terms will result from allowing it so to stand—especially since one is necessarily brought by it into the shore road.

The overland run from Poughkeepsie connects with the Hartford-Springfield-Worcester route only, since it enters Connecticut above New Haven. It is about eighty miles from Poughkeepsie to Hartford, and the route is through Hopewell and Pawling (N. Y.), Danbury, Newtown, Naugatuck, Waterbury and New Britain, Conn. It is a good day's run in fair weather, but one must take his chances on supplies. This is the end of advantageous routes from the west entering below Springfield—in itself a big hub of routes with spokes reaching to the Upper Hudson and Albany. These belong, however, to another series, the Berkshire connections to the east.

Long Island offers two connections toward Boston, by boats which run, none too frequently, between (1) Port Jefferson and Bridgeport and (2) between Greenport and New London. Port Jefferson is a trifle less than forty miles from College Point (ferry from Ninety-ninth street, New York). Greenport is 120 miles or so, being situated near the end of the island's North Shore road. It is better reached, however, via Patchogue and Moriches to Riverhead, thence east by north to Greenport. This makes the shortest of all routes to Boston.

It may sometimes happen that one may wish to use his automobile in and around Boston, or on the North or South shore, without riding the entire distance from New York, or going to the trouble of sending it as a separate shipment. The same is apt to be the case with people having summer homes at Narragansett Pier, Newport, Buzzard's Bay, Martha's Vineyard and round about. Not



very long ago it was different, but now one may take his machine nearly anywhere his handbag may go, in so far as steamboat lines are concerned. The problem with the railroad is different, but an automobile may be run aboard almost any kind of watercraft above the grade of hand ferryboat. There is no trouble except to run it off again; and the revenue has grown to be considerable. So the clerks in the steamboat ticket offices and the captains no longer shake their heads when you timidly admit having an automobile in your equipment; they quote you the stated charge therefor as a matter of course. The lines controlled by the N. Y. N. H. & H. R. R. (Marine District) have established a charge of \$8.10 for carrying vehicles seating two persons from New York to Fall River, Providence or Newport. For vehicles seating four, the charge is raised to \$10.80; more than four, it is \$13.60. Rates to other points will be quoted on application in person or by letter to Pier 19, North River. It is a great convenience to know what you may expect before starting out. The coöperation of a steamboat, like a gun in old-time Texas, is needed only at long intervals—and then badly!

## REFERENCE TABLE OF DISTANCES.

1. New York to Boston (a) shore line, via New Haven, New London and Providence, 248 miles; (b) Springfield line, via New Haven, Hartford, Springfield and Worcester, 260 miles; (c) across Long Island, then shore line, 236 miles, plus the sail across the Sound. 2. Connecting lines from the Lower Hudson (a) Yonkers-New Rochelle, 10 miles; (b) Tarrytown-Mamaroneck, 14 miles; (c) Tarrytown-Portchester, 16 miles; (d) Peekskill-Bridgeport, 54 miles; (e) Poughkeepsie-Hartford, 80 miles. 3. Sound Steamer Landing to Boston (a) New London-Boston, 110 miles; (b) Providence-Boston, 45 miles; (c) Fall River-Boston, 50 miles; (d) New Bedford-Boston, 56 miles; (e) Newport-Boston, 65 miles.

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The AUTOMOBILE MAGAZINE, and particularly the compiler of its tours, will welcome either corrections in work already done or suggestions having in mind better ways and means of accomplishing the same ends. In due time, these trips and their illustrations will be issued in separate pamphlet form for the convenience of subscribers; and not only is absolute accuracy desired, but differences in viewpoint and opinion will help to shape the final result.

## The Place of the Mile Record Trial

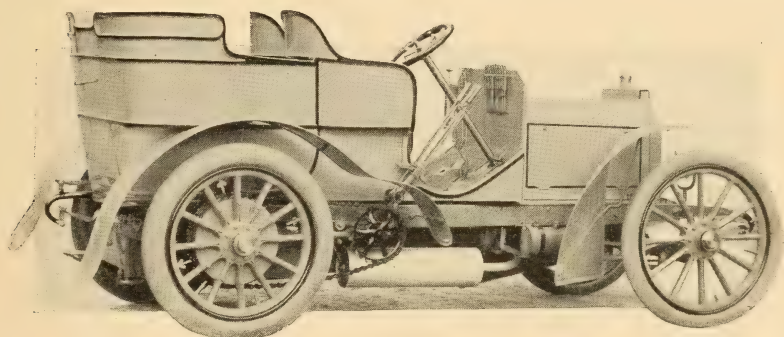
**T**HERE is no single section in the Metropolitan Riding District better suited for short distance speed contests for automobiles than the eastern shore of Staten Island. It is one stretch of good and level roads practically from St. George to Tottenville, 16 miles or so through the whole length of the island. The towns, though close together, are small—mere specks on any road map. It would be possible to stop an organized run at almost any point en route and pull off an impromptu speed contest. So much better, then, for anticipated new records, when special arrangements have been made with that definite end in view.

Grant City is of itself a small collection of houses about six miles from the ferry landing at St. George, and less than a mile this side of New Dorp, the better known point. To reach it by train, take the Staten Island Rapid Transit direct to Grant City station. To ride there, cross over from South Ferry to St. George, leaving the ferry slip by the left exit, and go straight up to where the way ahead is half blocked by the irregularity of the first cross streets. Bend right just enough to get around this jog in what ought to be a straight road and go ahead a single block, Hyatt street, then turn left. This is Central avenue, which leads downhill for two or three blocks to Tompkinsville. Turn right, up a single block (Arietta street) then left (Griffin street) direct into Bay street, or the Shore road. Follow this through Stapleton and toward Clifton. But just before Clifton, turn right on a splendid macadam road—Vanderbilt avenue—direct to Grant City and New Dorp. It will be necessary to keep a lookout for Vanderbilt avenue for, although the principal thoroughfare on the island, it is unmarked (save for its perfectly macadamized entrance) to this day.



## The New Vanderbilt Mercedes

**T**HIS is the vehicle that Vanderbilt bought and with it vanquished Rothschild. Equipped for touring and driven by a fifty-five horse power motor the weight of the vehicle has been kept down to close to 2,000 pounds, being a marvel of power, strength, lightness. The builders, the Daimler Company, Cannstadt, Germany, received the order for the carriage early in December and turned the completed vehicle over to William K. Vanderbilt, Jr., late in March. The contract was given under a guarantee from the makers that the vehicle should show a mile in 53 seconds or better. Evidently this must have been done since Mr. Vanderbilt accepted the vehicle and has himself sent it along five-eighths of a mile in 32 2-5 seconds. In



view of the perfection of the vehicle and the fancy prices alleged to have been paid for other high speed cars the announced price of this one, \$10,000, cannot be said to be exorbitant.

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### Warning to Beginners

Don't harass the nerves of your motor ;  
If you do, you are likely to learn  
Why *It* is a *She*, unexpected :  
For, though only an auto, she'll burn  
To have her revenge—and her actions  
Will induce you to earnestly yearn  
(With oaths that are pure mediæval),  
To have died ere you caused her to turn !



# Speed and Perfection

By R. F. COLLINS

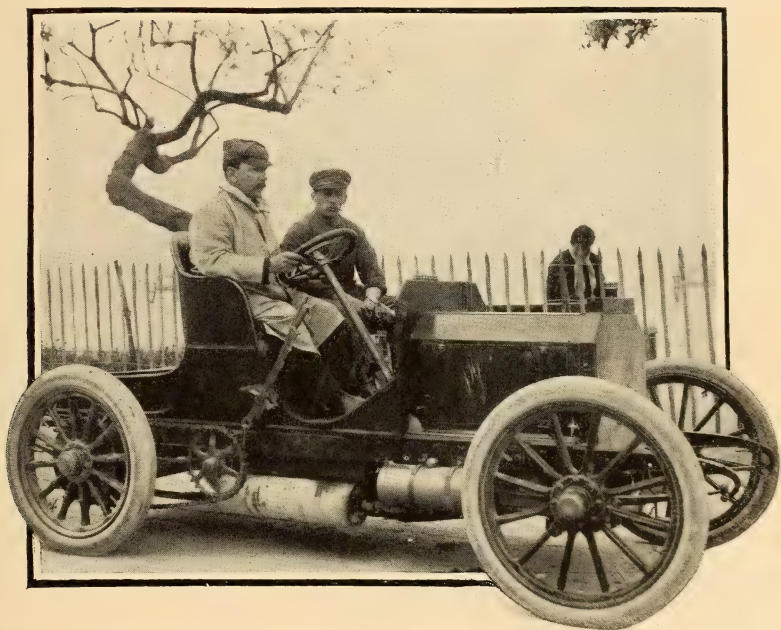
**A**UTOMOBILISM in France has been reared in an atmosphere of racing, and has now reached a stage of development when some people think that the new vehicle can dispense with speed work altogether. As the pleasure carriage is regarded as one of the highest and most useful achievements of modern engineering skill, so the racing automobile is looked upon as a Juggernaut seeking whom it may destroy, and is kept in subjection by timid legislators who pretend to fear that otherwise it might break loose and carry destruction through the length and breadth of the land.

Thus the powerful spaced-devouring machine is encountering deadly opposition from European governments, who have already thrown Continental automobilism into consternation by the prohibition of the Nice-Abbazia race, and now hesitate about giving sanction for the other big racing events that had been planned to be held during the present year. If this antagonism continues it will produce a very doubtful outlook for the sport, and be no less unsatisfactory for the industry, since the two are so closely allied that there is very little chance of one making much progress without the other doing so.

Even here the people who legislate pretend to believe that racing is merely the sport of wealthy vehicle owners and they say that having already served its purpose as a means of giving a vogue to the motor vehicle, it can now be conveniently suppressed. If none but owners took part in races there might be some plausibility in this argument. But the strongest supporters of racing are the makers themselves who find it an invaluable means of testing the machinery of a vehicle, and the rivalry which is provoked by these competitions has resulted in far more progress being made in mechanical design than could possibly have been achieved without them. If it were not for this perpetual striving after speed the French automobile would never have reached its present stage of relative perfection.

The most convincing evidence of this utility of racing is the big advance which marks the construction of automobiles with each important event they enter. Nothing is more curious or more instructive than the decided increase in power and reliability which have coincided with every great race. The experience gained in each long

distance speed contest is invaluable to the manufacturer who finds therein many hints for improving his motors and propelling machinery. Then by a careful selection of the most suitable devices, often in imitation of his more successful competitors, he evolves types of carriages which are necessarily the survival of the fittest. Since the time, not so very many years ago, when makers regarded six horse power as the highest that could be safely employed in a racing vehicle, the power has been steadily and consistently increasing until carriages of the gasoline-electric type were built up to 100



Stead's 40 h. p. Mercedes, winner La Turbie hill climb

horse power, while the strict gasoline carriages were frequently fitted with motors of 75 horse power.

It was then seen that something more than power was needed to secure the maximum of speed, for with an augmentation of power came an increase of weight which not only absorbed a good deal of energy but gave rise to serious difficulties in connection with the pneumatic tires. Weight must therefore be kept down if the vehicle is to improve in efficiency, and the new racing rules limiting the extreme weight of all competing vehicles to 2,200 pounds has set makers a very interesting problem of how to get the maximum of

power into such vehicles. The result has been that there have been evolved entirely new types of automobiles which mark another big advance in construction. This is seen in the new types here while the powers are the same as, and in some cases less than, in the vehicles which took part in the Paris-Berlin event; the new vehicles have nevertheless proven themselves considerably faster than their predecessors.

Despite all of this the opponent of racing can see nothing advantageous in the speed of an automobile. He argues that the pleasure carriage has no need to travel fast, and that any legislation which may prevent excessive speed is, therefore, a distinct advantage. He overlooks the fact that without speed there can be no efficiency, or rather no perfection. Speed implies a combination of power, lightness, strength and reliability, as well as care in construction, and these qualities are just as essential to the touring carriage as to the racing machine. There is no necessity for the pleasure carriage to be unduly fast, but if it is to make any real progress it must certainly possess the other advantages, which can only be given to it by the experience gained in racing.

Look at the vehicles that were sent down to Nice in hopes of a race to Abbazia. Can it be for a moment suggested that they are mere mechanical monstrosities built solely for speed and possessing none of the requirements of the tourist? Certainly not. The new Mercedes shown herewith is far ahead of anything turned out in previous years. Not only is this true in point of speed, but more particularly in simplicity and reliability and noiselessness of running. By the employment of new mechanical devices this big four cylindered forty horse power vehicle is as silent as an electric carriage. You have only to change the carriage body and affix a less powerful motor of identically the same type to have an ideal touring automobile.

If the automobile is to reach perfection racing cannot be suppressed. As it is now automobiling is certainly passing through a very awkward period, but the industry is so powerful, and the public are so much in favor of racing, that European governments can hardly fail to take a saner view of things and relax their present antagonistic demeanor.

Paris, May 5.

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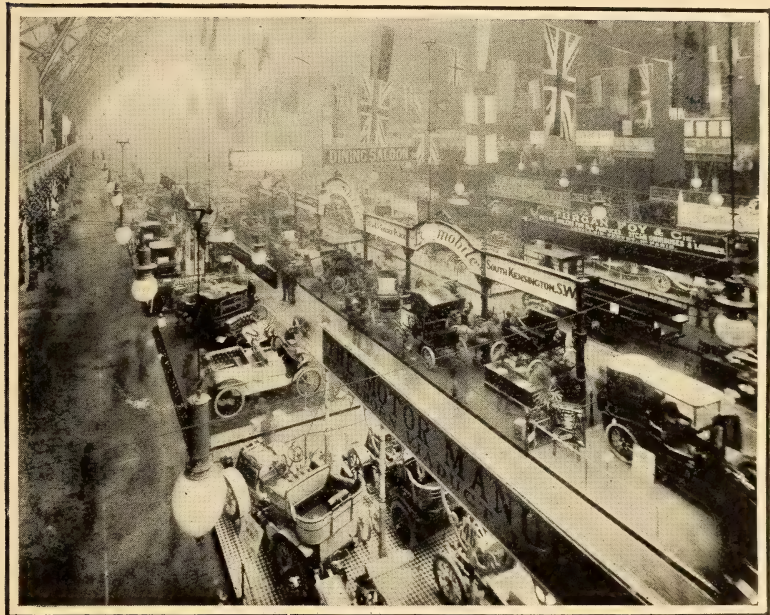
Generally the better satisfied a man is with himself, the less satisfied he is with the rest of automobiling.



# The London Show

By A. F. SINCLAIR

**T**HE LONDON Exhibition, under the auspices of the Automobile Club of Great Britain and Ireland, held in the Agricultural Hall, was a splendid show of modern automotors, and is claimed to have been the finest ever held out of France, and in some respects not a whit inferior to the last Paris exhibition.



Whether viewed as an aggregation of vehicles and accessories, as a spectacle, from the amount of business transacted, or from an attendance point of view, the same story has to be told, and not the least important feature of its success was the very great educative influence which it must have exercised.

To enable the reader to form some conception of the extent of the exhibition the following particulars will be of service. In the first place a word or two about the hall in which the show was held. The Agricultural Hall takes its name from being the London show place of the Royal Agricultural Society, and is made use of for the exhibition of fat stock at different seasons of the year. It is a hall about 160 yards long by 85 yards wide. All

around the sides and ends, about 18 feet from the floor, and an equal distance from the eaves, there is a powerfully constructed gallery about 42 feet wide.

The floors of the two halls were occupied with cars principally, while the arcade and gallery housed accessories, parts, and clothing. In the case of previous shows held in this building a space in the middle of the large hall had been set aside for trial runs, but the demand for space was too great, and the greater value of the center for show purposes was too clearly recognized to permit of the practice being continued, and no regret was expressed at its absence. Clatter and dust were reduced.

Altogether, there were about 280 exhibitors, an increase of quite a hundred on last year, the number of cars on view being close on three hundred. All the usual shapes were on view, but none approached the tonneau in numbers, although the phaeton made a fairly good showing. The electric vehicles exhibited the most conservatism in design, great disinclination evidently being felt by the makers to leaving the accepted form of the horse-drawn vehicles. While there was, of course, a very large preponderance, a gratifying preponderance indeed, of British built cars, American, Belgian, French, Italian and German cars were also shown in considerable numbers, the Americans being conspicuous not only from their distinctive design, but from the prominence of their advertisements.

A highly satisfactory feature of the show from the British point of view, was the position taken by the home firms engaged in the automobile industry. There were distinct evidences of the great strides made by British makers, and it is no exaggeration to say that home-built cars compared favorably with the best foreign makes shown, while on the question of color, as has already been said, their absence of gaudy tints commended them to the quieter tastes of British purchasers. Another satisfactory feature was the large addition to the number of British exhibitors.

A large amount of business was transacted, and it has been estimated that sales to the amount of £4,000,000 were made during the week, while one firm is said to have booked orders to the value of a quarter of a million sterling; sufficient to keep their works employed, at the present rate of output, till next December twelvemonth.

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He that rideth with the careful man shall be safe; but the companion of a speed-worshipper shall be destroyed, maybe.

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## Malcolm Webster Ford

THE name of Malcolm Webster Ford is familiar to our readers through his connection with the AUTOMOBILE MAGAZINE as editor; and they are no doubt familiar with the tragedy that closed his life. That life was a failure, not that the man was lacking of the attributes which make up the warp of a successful life; but because in his manhood he received an inheritance of galling injustice which turned geniality into bitterness and led to brooding over the wrongs inflicted until it unbalanced his reason and moved him to end his own life and that of his brother. For no just cause the father, a man of great wealth, disinherited Malcolm and left him to struggle against unexpected penury, while the rest of the family were left rolling in the lap of wealth and luxury. Malcolm believed that his gifted brother Paul, the well known author, influenced the father against him, and he grew to look upon Paul as the author of his misfortunes. When eternal justice comes to be meted out, we believe that the father will be adjudged the slayer of his two sons.

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## The Inns and the Outs

WITH better roads and the general use of motor vehicles there will again arise a demand for a superior class of country inns. It was supposed that the bicycle, through the largely increased traffic on the highways that followed its introduction, would bring about that result, but these anticipations have not been realized. As a rule the bicyclist was a road traveler, who sought for quantity and cheapness in his food and drink supply, rather than quality and agreeable surroundings, such as appeal to the automobilist.

The landlord of a country inn as it was many years ago, when the highways were the principal avenue of travel, was a man who not only had knowledge of the culinary art, but who gave personal attention to details of his kitchen. He was learned in the method of how to treat commonplace aliments, so that they would attain the level of delicacies.

Some of these inns were so famous for the serving of special dishes on certain days of the week that travelers would avail themselves of this custom and arrange their halts in order to enjoy a succession of exceptionally delightful feeding from one end of their journey to the other.

The speed and the comfort of motored carriages make a journey of forty to sixty miles into the country agreeable and rapid. To encourage traffic of this character there must be provided here and there inns, where a stay of two or three days would offer superior gastronomic diversion. Their fame should be built upon the perfect preparation and serving of possibly a dozen dishes, which should never be allowed to vary in quality.

To accomplish this a landlord should be practically learned in the culinary art, so that he could exercise more than perfunctory supervision over his kitchen. In these days proprietors of hotels or inns give no attention to anything but the financial management of their establishments. As a rule they have no epicurean impulse, and they confide the most important department—the cuisine—to cooks and stewards, whose interest in their work does not aspire to more than mere routine results.

An enterprise such as is suggested should combine the character of an inn and a club. Its capacity should be confined to the caring at one time of not more than fifty people, and those only for a transient stay. It should be made exclusively a resort for lovers

of good living, where with appetites sharpened by rapid movement in the open air they could have positive assurance that upon arrival at their destination perfect service and the most conscientious efforts of the culinary art would await them, to say nothing of a proper care and attention of the conveyances which has brought them to mine host's.

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## Dawn of Decent Highways

**T**HE State Engineer of New York will soon advertise for bids for the construction of 186 miles of improved roads under the Good Roads law of 1898, for which the recent Legislature made possible the expenditure of \$1,600,000, half of which is to be borne by the State and half by the localities.

In all, sixty-five roads are to be improved during the coming year, the number of miles in each county being: Albany, 8; Broome, 3; Chenango, 5; Cortland, 2; Erie, 25; Fulton, 5; Monroe, 49; Montgomery, 12; Oneida, 5; Onondaga, 7; Orange, 26; Rensselaer, 6; Rockland, 6; Schenectady, 2; Tompkins, 2; Ulster, 19; Washington, 7.

The leaven of improved highways is working and the good effects thereof will, in the near future, be self-evident. In the meantime it behooves all progressive citizens whether they own automobiles or horses, or for that matter, neither of these, to see that the leaven of concerted action is maintained, so that we may not lapse into the unfortunate condition of so-called road "improvement" which we are now so fortunately leaving behind us.

---

## The Mission and the Machine

**A**NYTHING with a first-class, up-to-date mission is more likely to win, "so they say," than is something that has no really practical and valid excuse for being.

The automobile was born with a mission—not a narrow, selfish mission, but one whereby others are to be benefited. We understand this is a very desirable feature for a mission to possess in order to have it run well.

"Non nobis solum" is what a very fresh college graduate, or a man owning a "Handy Dictionary of Foreign Words and Phrases," would introduce about here. In good Broadway English it means "not for ourselves merely." Well, anyhow, that's the way it is with the motor vehicle.

From the time when Columbus discovered us to the present day, this country has been in need of good roads. We have invented and built railway lines, and trolley lines, and cable roads, and elevated roads, and subways, and lots of other cute and curious things, but we have always been short on just good, common every-day roads such as one could wish to find about the country, outside of the paved, stony hearts of cities.

These roads have been blindly yearned for during the slow drag of dusty and mud-mired centuries, but they didn't come. Mainly because horses couldn't ask for them, although it is said that the donkey, always credited with wisdom, has brayed for them.

Man is a thoughtless, selfish, inhuman being, and not until several years since he tried to ride a bicycle over the stones or through the mud was his mind brought to a realization of the awful condition of the highways, and his heart touched with pity for the poor, dumb brutes he had been lashing for ages. Now, men want good roads for themselves and for others.

"Their cause I plead—plead it in heart and mind;  
A fellow-feeling makes one wondrous kind."

An automobile with no road to ride it on is of no particular value. On a poor road it is of little value. On a good road it is of much value. A railway locomotive, with no rails to run on, wouldn't amount to much. It's the same way with all vehicles. The better the road, the better the vehicle or means of travel. If the roads are so a horse can't get over them, he is of no value as a means of transportation. His value increases with the quality of the road. The automobile in doing good things for itself, must do good things for others.

That is its mission. Do all you can to aid in its fulfilment.

It is a good mission. And then, too, the automobile has other missions, such as bringing health and happiness to men and women, etc., etc. But first, last and all the time, it is a good road maker. If it had no other mission this would be enough to keep it busy.

---

## Laugh at Trouble

**W**HY is it that the average owner of an automobile is so unreasonable? So many complaints—childish ones mostly—come to this office aimed at every vehicle and almost every part thereof that it would seem to be little short of a miracle that anyone ever found any pleasure in the ownership or use of an automobile.



If one could expect to get from the complaint makers anything but complaints we might be tempted to ask why should automobilism any more than other enjoyments be entirely without disadvantages? One must take the bitter with the sweet. Some days must be dark, some roads rough and some hills unsurmountable. The sun does not shine on motor vehicles when the rain is drenching the pedestrians as they hurry on their respective missions. Why should it?

Tires will go wrong, machinery will become perverse and accidents will happen occasionally, no matter how well made the vehicle or how careful and competent the owner. A true sportsman is never disheartened at these little rebuffs, and those who have the spirit of adventure should look upon all such incidents as but diversions from the ordinary monotonous rides whereon everything runs smooth and clockwork like.

Novices should remember that they cannot learn to manage so complex a problem as the motor vehicle is in a few days. They must expect a few accidents and some not altogether pleasurable experiences before they are proficient enough to graduate from their novitiate. Veterans at the game should not be above a reminder that although they may have mastered the art of automobiling and have acquired perfect control of themselves and their vehicles that even so they are not infallible.

We live in a world of circumstance, and the least expected often happens. We are creatures of impulse, and consequently it takes little to bedim our brightest thoughts. Why should we not pass by these little contingencies and look at the sport in its pleasanter aspect?

The habit is easily acquired, and a smile where a frown is provoked will often soften the irritation which one so often feels when the vehicle and everything connected with it seem bent on going just as contrarywise as they can.

---

## Yesterday and To-day

**T**HERE was a time when we could step outside the city limits, or go even into the city streets in the later evening, and think with Ruskin:

"To any person who has all his senses about him a quiet walk, over not more than ten or twelve miles of road a day, is the most

amusing of all traveling; and all traveling becomes dull in exact proportion to its rapidity."

Now we have an automobile, and reckon the satisfaction of our day by the linear measure.

Where we used to lounge along the roadway, alone, watching the beetle in the dust or the buttercup in the grass, we rush along and calculate the distance from one highway to another.

Where we used to stand and watch the long lines of light and shadow underneath the trees of Central Park, or the changing stream of faces on Broadway, or sit on Riverside Drive and look across one of the most beautiful night scenes in the world, we now ride rapidly over safe and well lighted roads, in so comfortable and novel a fashion, that scarce a decade ago we would have thought little short of miraculous.

Yet despite it all sometimes foolish memory brings the light of other days around us.

---

Money may make a mare go; it has always been so alleged and never controverted, but it will not make a magazine go, that is not necessarily so. People have had beliefs contrary to this and paid for having them. Merely spending a lot of money to print a lot of magazines for which there is no demand never benefited any one, except the man who was paid to print them. After two numbers of an extensively and expensively advertised monthly automobile magazine, issued in an attempt to show that a publication could be made successful by the sheer weight of money spent upon it, the promoters have very wisely concluded that the \$16,000 worth of experience they have secured is quite sufficient to convince them that their ideas were wrong and hence it is that the centaurish remains are now in the hands of the funeral director of defunct business ventures—the receiver.

---

Nothing under the sun is new. William Sheperd Gray declares that Nathan Read, of Danvers, Mass., "was engaged on mechanical and philosophical subjects, particularly the construction of a steam engine, whose power might be advantageously applied to the propelling of boats and carriages," in 1789, five years after Watts invented his first steam carriage and the chronicler shows that the machines were not pushed to a success because Read lacked sufficient funds. Times have not changed so much after all. There is many a good automobile in this year of our Lord which is not being "pushed"

for identically the same reason which 213 years ago prevented the one invented by the Danvers genius from receiving a proper impetus.

---

Educating the public is not an easy task but it is one which it is commendable to undertake. Such affairs as the Long Island Automobile Club's endurance run and the Automobile Club of America's brake demonstrations are both affairs which are of great value to those who believe in automobiles and those who disbelieve in them. Talk is cheap, it is also unconvincing, as a rule, but seeing is believing when it comes to such things as these. The more the public can see of the efficiency and the practicability of the automobile the better it will be for the man and the vehicle.

---

History continues its repetitions. The recent triumph of the steam vehicle in the Nice contests where Serpollet once more left all competitors in the lurch, recalls the fact that the first automobile race ever run in France was won by a steam vehicle in 1894. Stranger still is it that the winner was built by De Dion-Bouton whose names are to-day more closely connected with the steam carriage's strongest competitor, the gasoline one.

---

The etiquette of automobiling is receiving considerable attention just now and the best of authorities seem inclined to differ as to what is the proper thing to do or not to do under certain circumstances. It is believed, however, that the owner of an automobile which has been run in to by a large bay team and a beer wagon has a right to speak to or at the German driver thereof without an introduction.

---

Now cometh the day when those possessed of the bravery of a sheep flee unto the mountains and the sea, vainly seeking safety from the automobile when it crieth "tuff-tuff," champeth the brake, and smelleth the battle afar off. Verily, woe has come upon us.

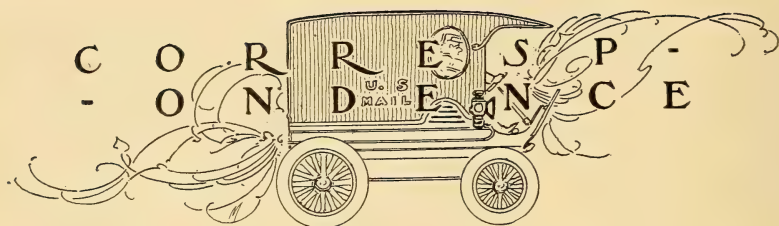
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No philosophy will prevent a man from experiencing some unpleasant experiences with a motor; but some of these experiences will interfere with a good many kinds of philosophy.

---

Horsemen and automobilists should peaceably formulate some agreement as to their respective road rights. Coming together in a violent way cannot be beneficial to either of them.





### Capsulated Lubrication.

**H**AVE what I consider is a most excellent way to use graphite for lubricating cylinders. Take the ordinary 3-grain gelatin capsules, such as are used to give medicine in, have them filled with graphite and kept handy. When you want to use one, fill your oil cup, drop in a capsule and go frictionless about your business. I have found this to be the cleanest and most satisfactory way to employ graphite in connection with the ordinary oil cup lubrication.

Litchfield, Ill.

W. W. DONALDSON.

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### Views of a Veteran

**I**N your May issue you speak of the present feeling against automobiles in New York city, the activity of the police, etc.; and you also deal rather sarcastically with Jersey justice. To begin with allow me to say that I was one of the very first automobilists in the State—a veteran in fact, having started with one of the earliest carriages produced in this country. Since then I have had six or seven different ones and now have a high powered 2,000-pound gasoline machine. So I can at least speak intelligently on the subject.

Now who is responsible for this increased feeling of disfavor and the activity of the police? Why a few idiots who are scorchers and who use no sort of judgment or common sense. They bring the whole sport into disrepute. The man you allude to in your editorial comment on Jersey justice came tearing through this town at an outrageous rate of speed and was utterly reckless. I would send such people to the penitentiary if I had my way. You will

find that most of those who take the *AUTOMOBILE MAGAZINE* will not thank you for any efforts on your part to excuse or defend this sort of thing.

Already I have heard suggestions that the public roads hereabouts be allowed to fall into a bad state of repair so as to protect this community from the visits of such fools as one I met the other day. He was coming down the street at not less than forty-five miles an hour with a man standing up in the tonneau waving his hands for everybody to turn out and leave him the whole road. Automobilists should be the very first to resent this action on the part of a few which can only bring restrictive legislation against all.

Morristown, N. J.

VETERAN.

---

[We quite agree with our correspondent that it is the unthinking, uncaring few who bring all automobiling into discredit. In our editorial we admitted this, but protested against the police making the many suffer for the sins of the few, as they are now doing in New York, where indiscriminate arrests are constantly being made without any regard to the guilt of the accused further than the ownership of an automobile and the allegation of the policeman that the speed limit was being exceeded. In the second instance it was because we assumed the man arrested in New Jersey was as guilty as our correspondent says he was, that we commented unfavorably upon the New Jersey judge letting him off so lightly. It takes more than a paltry fine of \$17.45 to deter a scorcher, and it was with the judge's lessening the fine to that sum, not to his having inflicted a fine in the first place, that we found fault.—Ed.]

---

### About Calcium Carbide

DO not believe that the article by R. H. Denton, in the May issue of the *AUTOMOBILE MAGAZINE* should be allowed to pass uncriticized. In the first place acetylene gas is not the result of fusing together limestone and rock-salt, but is the direct combination of calcium, the base of lime, and carbon under high temperature, and termed calcium carbide.

Second, it was not discovered by Thomas L. Wilson, but was known some time before the discovery that he actually made. The gas and its characteristics were described in Watt's Dictionary of Chemistry, Vol. I, p. 41, under the name of "Acetylene," published in 1888. Among the various ways of producing it was described that of the action of water on calcium carbide. Wilson, therefore,

neither discovered calcium carbide, nor the gas derived therefrom by the addition of water. What Wilson did discover was that in the high temperature of the electric furnace calcium carbide could be readily formed, and that is all. Rock-salt or sodium chloride has nothing whatever to do with its formation.

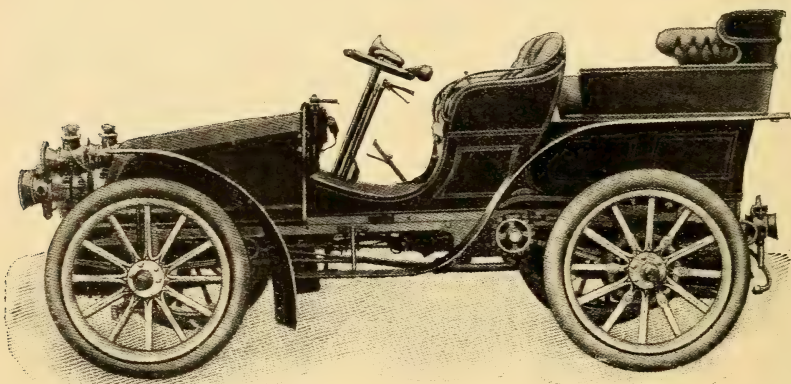
Detroit, Mich.

R. A. PARKER.

## Wants a Low Steam Carriage

**M**AY I have a little space to air a grievance, not personal but affecting the whole automobile industry? I am a steam man, born next door to a factory and handling steam engines all my life, but when I see the business-like design of some of the gasoline carriages, I am almost inclined to give up my steamer for one.

In the first place the steamers are all too high, every last one of them, and the "horseless" carriage is altogether too pronounced.



I want a motor carriage, not a horseless one. Let makers try and forget what they know of horse-drawn vehicles and start fresh from the motor (or motive power) up.

Instead of taking a Stanhope carriage body and cutting machinery to fit it, then filling every cubic inch that is left with tanks for air, water and gasoline, why not build the running gear—(low of course)—and arrange on machinery to the best advantage? Then build a body to suit, modifying it a little if necessary to conform to the rest. The picture herewith shows what an English concern has done in this direction.

There are lots of men who want steam machines, but who want



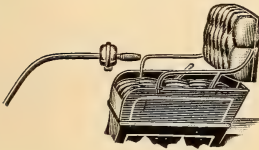
a different design from any now on the market. I could name one or two vehicles (if I dared) which would suit me exactly if their excellent mechanical details were put into a different type of carriage. Can't you induce some maker of steam vehicles to make a body and running gear to suit us cranky fellows who want them?

Nutley, N. J.

R. B. ROYCE.

## The Bell of Bells

**I**T is generally conceded that E. R. Rockwell, manager of the Liberty Bell Company, Bristol, Conn., is not only the Nestor of bell makers (bicycle) but he is also the pioneer automobile bell maker as well. Not long ago he was referred to in an article as the Tiffany of bell makers, which is a distinction high enough for anybody. Mr. Rockwell's latest automobile bell is a rotary musical chime operated by the hand, the bell being placed on the steering lever. The bell shown here is seen on an Oldsmobile, to which company the Liberty Bell Company are extensive purveyors. The Liberty Bell Company also make the foot pressure automobile and a variety of other high grade bells. The principal dealers in automobile goods carry the company's product.



## How Hall Helps You

To properly and continuously lubricate an automobile is as important to the welfare of the vehicle as to the comfort of its user. When, however, it comes to accomplishing this the ordinary automobilist finds the task an unusually difficult one unless it is his good fortune to settle upon some similar method to the one which the Hall Mfg. Co. of 40 Cortlandt street, New York, use. Lucky indeed is he who thus early in his career removes from himself one of the greatest annoyances connected with the use of the motor vehicle.

## There Are Others

"Was Ananias a great liar, pa?" asked Willie Writemup.

"Yes, for his time, my son; of course, there has been a great deal of improvement in that line since."

And with this the senior Writemup proceeded to put the finishing touches upon the Motor Manufacturing's catalogue, at the compiling of which kind of literature, Mr. Writemup was justly deemed an expert.

## Good Way to Save Insurance

The Gilbert & Barker Manufacturing Co. of 82 John street, New York, whose plant is located in Springfield, Mass., have given the insurance companies, metaphorically speaking, a clean upper cut by supplying a storage gasoline tank, which is placed underground and whose patented construction makes the task of drawing gasoline as easy as pouring out a glass of wine. Insurance rates, now all the way from 2 to 4 per cent., are receiving attention of a negative kind from automobile people who are keeping the Gilbert & Barker people busy. The cost of the tank is saved in insurance reduction—and oftentimes insurance is not taken at all.

---

The Brennan Manufacturing Co., gasoline motor builders, of Syracuse, N. Y., are naturally pleased with a testimonial received from Clemson College. S. C. Prof. Albert Barnes of the mechanical engineering department of the college is a thorough believer in the Brennan automobile motor and has written the makers a letter stating that the Brennan motor had taken the place of two unsatisfactory motors that the college had been trying. Mr. Brennan deserves great credit for the way in which he has persevered in overcoming the little defects of the motor bearing his name, which is now in the first rank of those favored by the advanced builders of automobiles.

---

## Duty and Determination

"It all, I see, depends on me,"  
Said the boiler, "and I must  
Stand a pressure that 'll win the race  
And I'll do it, too, or bust!"

---



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# THE AUTOMOBILE MAGAZINE

VOL. IV

JULY, 1902

No 7

## The First Steam Carriage

BY ANGUS SINCLAIR

**T**O people who are familiar with the advancement in the arts and sciences made by ancient nations, it seems strange that the potential power of fuels was not utilized among them to lighten or carry the burdens of mankind. Some progress had been made centuries before the Christian era began in doing work by means of steam; but its application was very limited, and the action of the steam engine was hidden as a mystery, to excite the wonder of the multitude.

Reference to what were undoubtedly early forms of steam engines are repeatedly found in the Old Testament, but steam is called smoke or air, which has prevented people from identifying the real object referred to. Two hundred years before the birth of Christ, Hero of Alexandria wrote a book in which he described an engine that performed work by the vapor from water, otherwise steam. Hero was not the inventor of the eolipile, as the apparatus was called, but was merely the historian describing useful and curious inventions. It is very likely that the engine had been long in use, and that Job refers to it when he says: "Out of his mouth go burning lamps, and sparks of fire leap out. Out of his nostrils goeth smoke, as out of a seething pot or caldron."

The eolipile, which worked by the reaction of steam against the atmosphere, was used up to comparatively modern times, and the philosopher, Bacon, was familiar with it, and proposed utilizing the power of steam for the draining of mines. His scheme, which was suggested by the eolipile, was considered of so much import-

ance that King James I of England called together a parliament to consider it. The death of Bacon ended his proposed enterprises and the details of his inventions are lost.

Shortly after the death of Bacon, Giovanni Branca, an Italian, obtained a patent on an improved steam engine, in which motion was produced by a current of steam impinging upon the vanes of a horizontal wheel. That was an improvement upon the eolipile, and was the prototype of the steam turbine which has achieved so many triumphs in the transmission of power within the last few years.

The operation of eolipiles and of improvements effected upon that form of steam apparatus did not have much effect upon the invention of the modern steam engine. Their most potent influence was in keeping before the scientific world the possibilities of steam. What proved for many centuries an insuperable barrier to progress was the want of harness to resist the force of expanding steam and thereby produce work. For many long years philosophers and scientific investigators could think of no better way to produce motion for steam than its reaction against the atmosphere, which offered so little resistance that its effect was too light for obtaining much useful work. The invention of Branca had the germ of a practical steam engine; but the inventors who were laboring to harness steam to the toil of industry failed to perceive that some simple changes, to direct and control the steam as it was applied to the wheel, would produce a steam engine that would rival in efficiency those developed a century and a half later by James Watt.

During the speculative period of the steam engine high hopes were entertained for it as a means of helping to annihilate distance. "To fly with the wings of a dove" was long a world-wide poetic yearning with those whose hearts longed to reach loved ones or distant homes without the tedious delay of medieval transportation. Sir Isaac Newton shared the desire for accelerated travel, but the most desirable improvement that his master mind could conceive was a chariot run by a jet of steam impinging against the atmosphere. Speedy land carriage would have waited to all eternity had nothing better than the steam jet been invented for producing motive power. The work of two unlearned mechanics, in applying a piston to work inside of a cylinder, supplied the steam yoke which the world had long been waiting for. After Newcomen and Calley demonstrated the utility of the piston, there have

always been a cloud of inventors ready to work on the perfecting of the steam.

The long hoped for fiery chariot, which was going to bring the ends of the earth together, was long in coming after the steam engine had achieved great success in pumping water and in turning the wheels of industry. The condensing engine, which introduced steam as a popular means of motive power, was a ponderous, slow moving giant. It had the motion of the turtle, and witnessing its action paralyzed inventors who wished to impart the speed of the hare to road vehicles by means of steam. The French engineer Cugnot had the enterprise to design a form of steam engine that was suitable for locomotion, and shortly afterward Oliver Evans, our American inventor, produced the high pressure, high speed engine which was the pioneer of transportation motive power. But Cugnot and Evans lived in countries that had not been infected with "steam engine infatuation." Great Britain was nursing a monopoly of that contagion, and the people had got over the practice of throwing rocks at steam inventors. A man with an improved form of steam engine was likely to receive a patient hearing, if it could be had anywhere, and so the first persistent attempts to apply the steam engine to land transportation were made in England.

The first man to build a steam carriage for the transportation of passengers on common roads, was Richard Trevithick, an English engineer of inventive tendencies and erratic business habits. Wood, in his "Treatise on Railroads," published in 1832, says that Trevithick copied drawings of a high-pressure steam engine sent from America by Oliver Evans, and proceeded to apply it on a steam carriage.

Although the people of England were enthusiastically in favor of the work done by steam engines housed in mills and pumping stations, they drew the line on rattling, smoke-exuding steam engines traveling on the public highway; and Trevithick's steam carriage would have been stoned to pieces by the indignant rustics if it had held together long enough to make regular trips. In some people it excited blind hatred as all innovations have done among narrow-minded people up to the present time. Others regarded the machine with terror.

The story is told that when he was making one of his first runs in the steam carriage, Trevithick came to a toll-gate and stopped to pay the charges. "What is to pay?" he demanded of



the frightened toll keeper, who stood with his mouth agape, shaking with fright. "What is to pay?" roared Trevithick, getting impatient. "Nothing, Mr. Devil," gasped the toll man, "if you will only go and leave me here."

The intelligence of the toll man was not much below that of the average Englishman in 1803, and it is not to be wondered at that the first steam carriage proved a failure. Other failures followed in succeeding years, and the promoters of railways had to fight the battles against hostile and belligerent prejudice that violently opposed all forms of peripatetic, power-driven vehicles. The railway train brought tardy tolerance of the automobile, but the narrow-minded human beings, in common with their fellow feeling creatures, dogs and monkeys, still oppose the movement of vehicles by anything not graced with a tail.

### It Was An Even Break

"When I heard the auto horn, I just stood on my rights and refused to move over on the side of the road and let the fellow in a little steam runabout pass. At the same time I told him that if he ran into me I'd smash his machine."

"Well?"

"I kept my word. He ran into me, and I smashed the machine."

"What did he do?"

"He gathered it together."

"But to you?"

"Oh," sadly, "they gathered me together, too."





## The A. C. A. No-Stop Century



"Why have you got those 'blinders' on?"

"I'm an observer."

It was an odd mixture of progress and patriotism, motors and militia, the old and the new, which marked the start of the Automobile Club of America's endurance run to Southport, Conn. and return on Decoration Day.

To the onlooker the contrast between the masked and leathered automobilist, and the bearded and banded war veteran as they met and passed each other on New York's famous Fifth avenue, told the story of how rapidly the world has progressed in the last few decades better than a volume could have done.

To compete with bands, brigades and uniforms, and yet to hold its own with a holiday, sight-seeing public was a severe test for the automobile, yet it did not suffer therefrom, the illustrations herewith giving excellent proof of this.

As early as eight o'clock the entrants began assembling in the plaza upon which fronts the Automobile Club. The picture was one which has not yet become so familiar as to rob it of all attraction for the curious. Men begoggled, besmeared and bedraggled, tinkered and tended automobiles big and little. Steam hissed, motors chug, chugged and the odor of gasoline was insistently everywhere.

Important looking gentlemen, with silken bands upon their arms, which betokened their committee membership, interviewed vehicle owners and entered the result of the interview in portentous

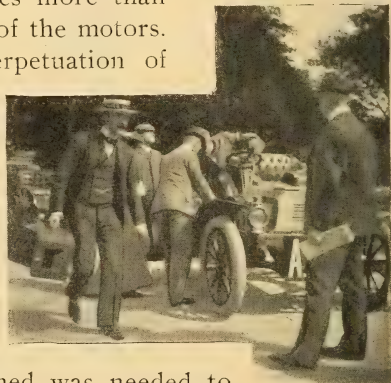


looking volumes. Observers with badges as large as soup plates were sprinkled plentifully through the crowd like white currants in a machinery cake.

There was a spirit of I'll-do-it-or-bust! plainly in evidence among those who were to drive the vehicles, and the spirit shown fiercest whenever the driver found himself within the focus of a camera. As the num-

ber of camera operators far exceeded the subjects for their focusing, the strain upon the vehicle operators was intense though none seemed to either resent the fact or to relax the severity of countenance which every true endurancer considers as a most essential part of this parade makeup. Before the start was finally made the camera corps had become so large and so aggressive that the snapping of the picture boxes more than held its own with the explosions of the motors. It was a great day for the perpetuation of vanity, and neither the perpetrators or the perpetuated lost a single opportunity to get their money's worth.

Down in the basement of the club's building men entered plain, ordinary looking citizens and eventually emerged important officials. Nothing but the soup plate badge before mentioned was needed to work the change. Great is the power of the badge! Dame Fortune had been advertised as the distributor of these badges, but subsequent developments led to the belief that the lady must have declined the task and Dame Favor had been given her place. It cannot be said that the latter did not perform her part in a way eminently satisfactory to those competitors who believed the tediousness of a hundred mile journey is greatly lightened by having your personal friend and your official observer combined into a single individual. As to the wisdom of such a method, that is a thing which the officials of the

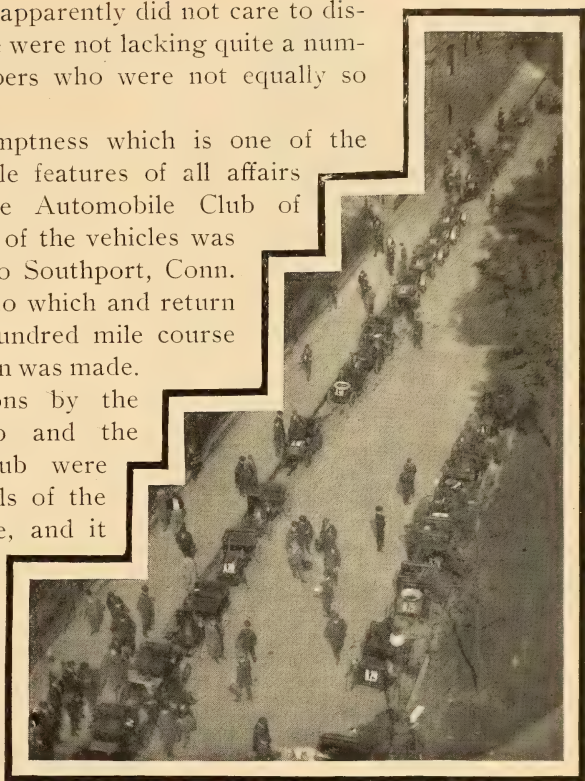




Automobile Club apparently did not care to discuss, though there were not lacking quite a number of non-members who were not equally so reticent.

With a promptness which is one of the most commendable features of all affairs promoted by the Automobile Club of America the first of the vehicles was sent on its way to Southport, Conn. 50 miles distant, to which and return constituted the hundred mile course over which the run was made.

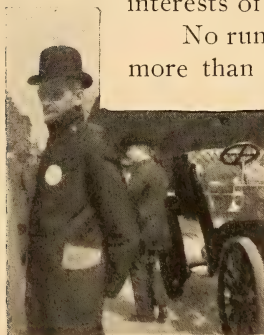
Recent actions by the Automobile Club and the Long Island Club were fresh in the minds of the scorching brigade, and it was a foregone conclusion that they would not forget them. They did not. From the beginning to the end there was



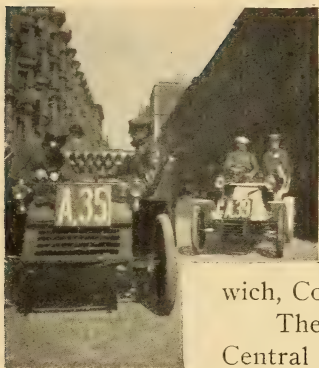
no racing or excessive speeding at any part of the journey, nor was there any striving for fancied positions of advantage in the line.

Few of the competitors were compelled to stop during the entire trip, and such stops as were made were principally in the interests of safety to the public.

No runaways of fractious horses were caused, and in more than one instance a considerate competitor forfeited his position in order to aid drivers in educating timid animals in the harmlessness of the motor vehicle.



Taken as a whole the course was an ideal one for a continuous run. There were not lacking a goodly number of short, steep hills along with some long, heavy grades to ascend and descend; there were short level



stretches of fine macadam, there were sections of gravel and rock, and more than all, there was dust.

Outward bound, the wind was with the drivers, but incoming it was against them. Throughout the journey the course was lined at cross-roads and in towns with interested spectators. At Stamford and Green-

wich, Conn., the crowds were particularly large.

The route was by way of Fifth avenue, Central Bridge, Fordham, Bartow, Hunter's Island, New Rochelle, Larchmont, Mamaroneck, Rye, Greenwich, Mianus, Stamford, Norwalk and Westport to Southport. The return was over the same ground.

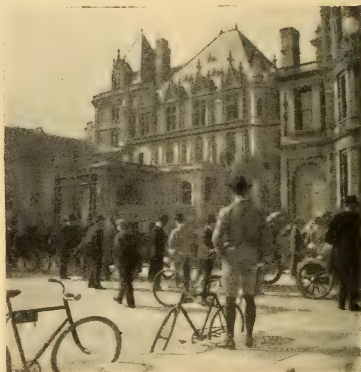
Excepting for the delays demanded by safety or the law, or by tire trouble, the competition was stop and out. Certificates were the prizes, and in order to qualify for these, vehicles propelled by gasoline were required to make the journey without a stop, save under the conditions named.

The average speed was to be not less than eight or more than fifteen miles an hour. For steam vehicles controls were established at  $33\frac{1}{3}$  and  $66\frac{2}{3}$  miles where the tanks were to be refilled with gasoline and water.

Of fifty-five vehicles that entered and started thirty-eight were propelled by gasoline, sixteen by steam and one by storage battery.

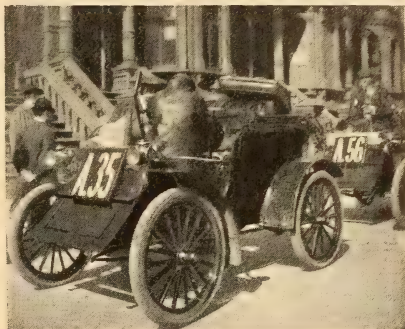
It was twenty minutes of four o'clock when the first vehicle home, a nine horse power Darracq, driven by F. A. La Roche, arrived back at the starting point, while closely following in the order named came Charles D. Cooke in a twin carriage to the La Roche one and H. W. Whipple in a twelve horse power Packard.

When the table of the winning vehicles is studied closely the only startling thing is the exceptional economy in fuel and water, shown by the three White steamers, which were the only steam vehicles entered in direct competition with the gasoline ones.



That is, these steamers asked no odds of the gasoline carriages, and showed that a trip of a hundred miles without a stop for fuel or water was as easy for them as for the explosive engine types. These wonderful little steamers went the hundred miles on an average consumption of 7.08 gallons of gasoline and 8.25 gallons of water.

Just what this White performance means is better appreciated when compared with the eight steam vehicles which finished the test under conditions permitting them to stop and take on water



when  $33\frac{1}{3}$  and  $66\frac{2}{3}$  miles respectively had been covered. These eight vehicles consumed on an average of 13.21 gallons of gasoline and 95.40 gallons of water. In other words, they used twice as much fuel and ten and a half times as much water as the White vehicles.

The following vehicles ran the 100 miles without a stop, save such as the rules provided for, and were awarded certificates of the first class:

Maker.	Entered by.	H.P.	Weight.	Consumption of	
				No. of Psgrs.	Gasoline. Water.
Geo. N. Pierce Co.	Percy P. Pierce	3½	1,130	2	4
U. S. Long Distance.	A. J. Lamme	7	1,660	2	4¾
A. Darracq & Co.	Chas. D. Cooke	9	1,560	2	5
A. Darracq & Co.	F. A. LaRoche	9	1,750	2	4½
Ohio Automobile Co.	H. W. Whipple	12	3,020	4	6½
Mors	Jefferson Seligman	12	2,900	5	7
Georges-Richards	C. J. Field	10-12	2,000	4	8
Georges-Richards	Alex. Fisher	10-22	2,000	4	7
Autocar Co.	Wm. Horgan	8½	1,500	2	5
DeDion-Bouton Co.	J. F. Hovestadt	4½	1,225	2	6
Fournier-Searchmont Motor Co.	E. B. Gallaher	8	2,450	2	7
Fournier-Searchmont Motor Co.	E. B. Gallaher	8	2,430	2	8¾
Haynes-Apperson Co.	Haynes-Apperson Co.	6	1,000	2	5
Knox Automobile Co.	Knox Automobile Co.	6	1,650	2	7
Knox Automobile Co.	Knox Automobile Co.	6	1,710	2	6
Knox Automobile Co.	Knox Automobile Co.	6	1,700	2	7
Fournier-Searchmont Co.	R. A. Greene	8	2,350	2	8½
*White Sewing Mach. Co.	P. H. Deming	6	1,750	2	6½
*White Sewing Mach. Co.	Windsor T. White	6	1,750	2	5¾
*White Sewing Mach. Co.	Morris R. Hughes	6	1,750	2	9
Prescott Automobile Mfg. Co.	H. M. Wells	4½	1,680	2	14
Overman Automobile Co.	Overman Automobile Co.	4½	1,700	2	10½
Prescott Automobile Mfg. Co.	W. H. Wells	4½	1,700	2	13¼
Locomobile Co. of America	Locomobile Co. of America	3½	1,620	2	10
Lane Motor Veh. Co.	Lane Motor Veh. Co.	10	2,100	3	15¾
Locomobile Co. of America	F. W. Lebing	3½	1,780	2	16
Grout Bros.	Grout Bros	4½	1,300	2	12¾
Locomobile Co. of America	Locomobile Co. of America	3½	1,925	2	13½

\*Class B, Section II, under strictly non-stop rules.



## When the Major Surrendered

MINNIE HOOVER-MACKENZIE

“**N**O, my boy, let women stick to horses, ponies preferably, but don't encourage them in believing that they can turn mechanics and retain the charms which are theirs by right.”

Major Ashley, after delivering himself of this dictum, leaned lazily back in the comfortable wicker chair he was occupying on the Country Club piazza, and watched the painstaking Frenchman who looked after the Major's big touring car, carefully inspecting and polishing the vehicle as it stood in front of the club resplendant in brass, enamel and nickel.

“Oh, come now, Major,” said his companion, Burton Blake-more, “it isn't as bad as that! A pretty girl is still a pretty girl, whether she sits in the stern sheets of a boat on a moonlight night at Larchmont or dons leathers and scorches down Long Island at the wheel of a forty-powered racer. You know she is, Major, and when you say otherwise, I'll be hanged if I don't believe you are getting old.”

The observant waiter appeared with a great silver pail, wherein reposed in its icy bed, one of those big bottles of liquid sunshine which prosaic commerce is content to unpoetically term champagne.

The Major's glass was filled, emptied and re-filled, before he answered the raillery of his host.

“I suppose it's the effect of my early training on the other side, but really, my boy, I must say that as much as I admire the American girl, and I am free to confess that I have never seen her equal in all my wanderings, yet, I can not bring myself to admiring her in her masculine moods. You know I am as fond of that big vehicle out there as I once thought I never could be of anything which did not require the care of a groom and the attention of the harness maker and the farrier, but I never would care for a woman who could put it through its paces.”

Major Ashley was a retired British officer whose wanderings had brought him to New York almost twenty years back, and whose inclinations had kept him there ever since. Possessed of an income sufficient for his needs he was a favorite with men of every age, while the ambuscades of Dan Cupid that the Major had escaped from surpassed the knowledge of even the Major himself.

Perhaps it was the effects of the wine, the first bottle of which had vanished and its mate was far on its way to follow; perhaps

it was any one of a hundred other mellowing influences, but, be the cause what it may have been, the Major, for once in his life, was both reminiscent and communicative. At any rate, there on the big club house piazza with no one around but Blakemore, the man whose discretion and loyalty he had often tested and ever found to be true, the Major said:

"Give me the girl of twenty years ago, womanly, modest and pure. The automobile girl of to-day I do not care for, she is far too bold and—well—masculine."

Burton laughed heartily. "Look here, Major," he said, "I'll bet you anything you like that you will end by marrying one of that kind."

"I shall never marry at all, Burt, my boy. I have cared for but one woman in my life, and I do not think I ever shall another."

Blakemore rose and went over to the Major's side.

"Forgive me," he said, "I am afraid I have recalled some painful memory in your life. I might have guessed you had a reason for remaining single all these years."

"You are right, Burt," he replied, "by saying that you have called up a painful memory in my life, but do not apologize for doing so. Sit down, old friend, and I will tell you all about it—this memory. It is nineteen years ago," began the Major, "when I first met Alice Dean—I had just reached the age of twenty-one. She was eighteen, and very beautiful. I fell in love at first sight of her.

"She was with her mother at a garden party, where I, in all the glory of a uniform and my newly received commission, also was a guest. She wore a simple white dress, with a cluster of golden-eyed marguerites at her throat, and a large hat trimmed with the same flowers.

"After that our meetings were frequent. She used to manage to steal out in the dusk of the evenings to meet me, her cheeks all aglow with blushes.

"One evening she came, not with her usual quick, light step, but slowly and sadly, her beautiful eyes full of unshed tears.

"'Oh, Eric,' she whispered, shaking like an aspen, 'you — you and I are to be separated. My parents are forcing me into a hateful marriage with a man whom I abhor. I believe my father is in his debt, and unless I consent to be his wife my parents will be ruined and homeless.'

"My indignation knew no bounds. I refused to give her up.

"‘It is a cruel sacrifice,’ she said, ‘yet it must be made. I cannot see my parents ruined, and glad as I know you would be to come to their aid, I know you can not do so. I must save them.’

"Then I got angry and accused her of not loving me, of being a flirt; but all the while I knew that I was wrong; knew that her whole heart was mine. She did love me truly. Yet her duty to her parents stood before her affection for me.

"We parted, both broken-hearted. I never saw her again. My aunt in Australia made me her heir, and when I had come into her property I sailed from Melbourne to America, having made up my mind never to return to England. Two years later news came to me of Alice Dean’s death. She died, leaving a child—a girl, twelve months old.

"That is my ‘love story,’ Burt; it happened eighteen years ago. I have never loved any woman in all these years. I don’t think I ever shall."

\* \* \* \* \*

The Major had not slept well the previous night. Thoughts of the past had come crowding through his brain, banishing sleep until long after daybreak. Despairing of avoiding these unhappy recollections of long ago, the Major had ordered out his big touring car and 8 o’clock saw him sending it along the Merrick road at a gait which was considerably faster than the law allowed, or the Major usually permitted himself to indulge in.

The effects of the rapid and smooth moving vehicle, combined with the pure morning air and the charming scenery through which the Major was traveling, were fast sweeping away the unpleasant recollections of a sleepless night, when a turn in the road revealed a picture which ill comported with the fair landscape in which it was framed.

It was a modern rendition of beauty and the beast. A farm wagon, left without guidance by a driver, who slept upon its seat, had met an automobile. The horses had become frightened, had been reined up sharply by the suddenly awakened driver with the result that the heavy vehicle had plunged into a natty little voiturette, damaging it to such an extent that its driver had been thrown out and stood with tearful eyes gazing at the wrecked remains of what had but a few moments before been a miniature replica of the Major’s own big car.

As the Major arrived he heard the driver, whose carelessness was the cause of all the trouble, roundly berating the automobilist.



A glance was enough for the Major, and when he had demonstrated to the entire satisfaction of himself and the driver of the wagon that a man who has done regular work with the boxing gloves for thirty of the forty-five years he has lived, is not just the one to insult or to play road-hog with, he turned his attention to the owner of the voiturette. The original cause of the Major's interference had somewhat hysterically been attempting to induce the Major to cease teaching manners by the impressive methods of uppercuts and straight jabs, but the Major, busy with the task in hand, had paid slight attention until a straight jolt from his left had landed on the driver's chin and temporarily deprived him of all interest in the events which were transpiring.

When the Major came to look at his fellow automobilist he was surprised to find that the little leather-jacketed and be-capped figure he had thought was that of a lad, wore skirts. It was a young girl, yet in her teens, whose cause the gallant Major had so ably championed. Ten minutes later the Major put on the brakes in front of the magnificent country house of his own banker, Oliver Beldale, and assisted the companion of his adventure to alight.

\* \* \* \* \*

A month later, and once more Major Ashley and Burton Blakemore had met at the County Club.

"And to think, Burt," said the Major as he told the story of his adventure, "that the girl is my Alice's child and should have been living at Oliver Beldale's for two years as a companion to his wife! It appears, as is usually the case, that her mother's sacrifice of herself had been in vain, and dying she left her daughter Jessie, alone in the world and without friends or means to provide for her. Beldale's wife met Jessie while she and Beldale were on an automobile tour through England, and becoming interested in the girl offered her a home in this country, which Jessie was only too glad to accept. It was a Beldale voiturette which Jessie was handling when she met the road hog, who I had the pleasure of teaching some better manners to."

"Looks mighty like fate, Major," said Blakemore, with the faintest possible suspicion of a smile hovering over his face.

"She's a little darling," went on the Major, carried away with an enthusiasm which would have done credit to one half his age, "with her mother's angel face and charming ways."

"Poor little thing," sympathetically observed Blakemore, as he

pretended to be very carefully selecting a cigarette, and, having succeeded in doing so, pushed the silver case containing the rest of them over to where the Major's hand nervously tapped the table upon which it rested. "Pardon, me, Major, if I take the liberty sometimes given to an old friend and ask you a rather personal question."

"What is it?" said the Major, as he, too, suddenly seemed to find it very difficult to select one of the tiny rolls of rice paper and Turkish tobacco in the case, which bore upon its silver side the family crest of the Blakemores.

"Why don't you try and overcome your objections to a masculine woman, to one who actually drives an automobile and marry Jessie?"

When the Major was sure that he had sufficient control of himself, he answered. "It's hardly fair of you, Burt, to couple Jessie's name with my foolish speech of a while ago. It is true that she can and does handle an automobile, and she handles it mightily well, too, but in that, like everything, she is womanly, modest and sweet."

"And you are in love, Major, without a doubt. No, don't deny it. You've been a different man since the day you so fortunately made Miss Jessie's acquaintance. Accept my advice now and my congratulations in advance."

\* \* \* \* \*

It was 3 o'clock when the Major, now an almost constant visitor at the Beldale establishment, was ushered into where the heroine of the accident awaited him. It wasn't the Jessie of the automobile, though, but a charming girl whose simple white frock made her, in the Major's eyes, look more like an angel and her mother than she had ever looked.

"I am so glad to see you, Major," she said, extending to him a little hand all browned from exposure, begotten of many a mile motored beneath the summer's sun. "I was feeling most dreadfully dull and certainly did not expect to see anyone this afternoon, expecting that everyone I knew had gone to the races, where Mr. Beldale expects his horse to win the big race. How is it that you did not go, Major?"

"I should have gone," answered the Major in a manner totally unlike his usually self-confident manner, "only I wanted to have you give me your advice upon a very important matter, and when I saw Mr. and Mrs. Beldale pass the club without you occupying

one of the seats in the tonneau, I concluded you had remained at home, and gave up my intended trip to the races to come here."

"Really, Major, I believe you are trying to flatter me, and I expect something better from a friend than that. I am afraid my advice would not be worth the taking by Major Ashley, but if it is, believe me I shall be only too happy to do something in return for all the kindness he has shown me. Now, please tell me all about this important affair in which I am supposed to be so much wiser than all the rest of your acquaintances, Major."

"Well," said the Major in a voice so different from his natural one that it startled even himself, "the truth is I am in love with a young lady, but I am not certain about her affection for me, and I should like you to tell me whether you really think it is possible for a girl of eighteen to love a man of forty-five?"

"If I were a man and loved a girl I should go straight to her. That is the only advice I can give you, Major."

"Then I will," said the Major, pulling himself together and becoming possessed of a little brown hand which fluttered in the Major's sinewy grasp like a bird in the snare of the hunter. "Jessie, it is you whom I love. Will you be my wife?"

Jessie did not seem at all surprised, for she put another little brown hand in equal captivity with its mate which now ceased to flutter.

"I knew it was me you meant all the while," she said, blushing. "You silly fellow!"





## When Africa Autos

“**G**EM’LEN,” began Professor Missfire Sparker, the newly-elected president of the Africo-American Automobile Club, “de fust thing in order am to find out whar’ we am at. As I understands de case, we has got together—de elite of de cull’d populashun—an’ organized an auchomobeel club an’ we has rented dis Kerosoene Commandery Hall in which to hold our meetin’s. So far so good. De objicks of dis club may be stated as follows:

“1—To put on de same style as white folks.

“2—To secure rest and to spite de mule.

“3—To git our feet off de ground an’ gin ’em a chance to shrink.

“4—To visit de surroundin’ kentry an’ behold de scenery, an’ take pertickler notice of de locashun of chicken farms and water-millyon patches.

“5—To save ourselves payin’ a thousand dollars a ya’r fur livery bills.

“6—To discuss matters of interest at our meetin’s connected with an’ consarnin’ de auchomobeel, which has now becum one of de bulwarks of American liberty.”

After considerable discussion as to the kind of badge the club should adopt, and whether the uniform should require spats at the wrist as well as at the ankles of the members, the president arose and made a brief but fervid address.

Professor Sparker told his hearers that as the Africo-American was the first colored automobile club ever organized, the eyes of the whole world would be watching it. Members were therefore warned that they must comport themselves with dignity befitting such a crisis. The pyramids of Egypt must decay in time, but the auto had come to stay until time was no more.

Here and there a great leader of men had dodged the issue and still retained the love of the people, but the day was near at hand when the world would demand of its great men that they bump their spinal columns and conquer a refractory motor or retire to the realms of obscurity.

At the conclusion of the address the members indulged in tumultuous applause and the meeting adjourned “till nex’ time.”

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Automobiling is nature’s cinematograph.

## Millionaires At Play

R. F. COLLINS

**H**ERE in France we have long since passed the stage of automobilism when the motor vehicle was regarded as the outward and visible sign of wealth and a luxury that could only be enjoyed by those whose wealth enabled them to pay liberally for their pleasure. Throughout all Europe the automobile is fast becoming a necessity of the professional or business man, to whom time is money and personal comfort a no mean consideration. It



W. K. Vanderbilt, Jr., and D. Wolf Bishop at Chartres

is useful for those who are constantly moving about in town, and almost indispensable for commercial travelers and others who have to cover big districts, frequently at a good distance from the railroads. Under these circumstances the money spent on an automobile is a remunerative investment and is returned to the owner with interest.

But with the sporting aspect of automobilism the case is different. No one who is not wealthy can afford to spend \$5,000 to \$10,000 upon a high speed automobile, as often happens, just for the fun of the thing, or for the sake of satisfying a desire to possess

the fastest vehicle in the world. This possession alone confers a distinction on the owner and enables him to occasionally revel in fantastic speeds with a sufficient element of risk to give zest to the pleasure. The automobilist who can travel faster than anyone else immediately earns a world-wide celebrity, and for this there are many who will pay whatever price is demanded of them.

This is one of the things which show the superiority of being a millionaire. It may be perfectly true that his life is a perpetual misery, and that, like Mrs. Hetty Green, he may go about armed to the teeth, but he has at all events the advantage of being able to forget the miseries of the millionaire profession by launching out in the delights of automobilism.

And there is another thing the motor vehicle is doing. So long as the sport of automobilism is largely confined to France it is favoring the importation of millionaires, and never before have so many of them found their way to this country, attracted to it solely by the mysterious power of the automobile.

Paris, June 2.

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### Slow, But Very Sure

"It is ratlier a difficult thing for a policeman to tell just when an automobile is going too fast for the public safety; but I understand they have a very simple plan in staid old Philadelphia."

"Well, a man would almost have to be going backward not to be going too fast there. What's their infallible method though?"

"Why, when ever the policeman is unable to count the spokes in the wheels of the vehicle he arrests the owner of it for scorching!"

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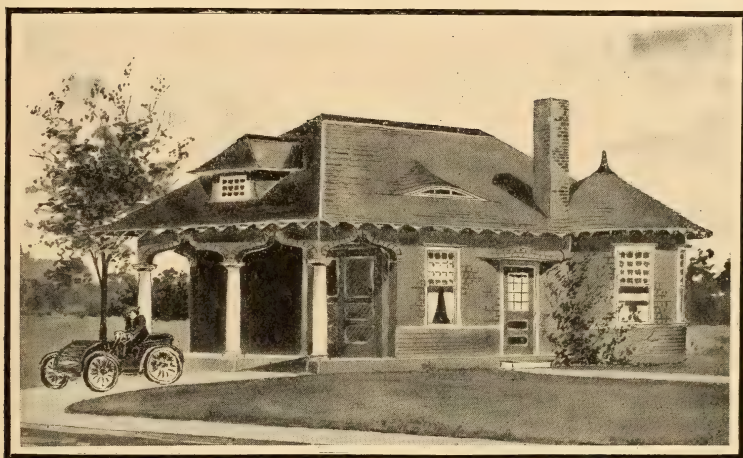
### A Benediction

God bless the vogue of the automobile!  
That wakens the world's unmeasured zeal,  
And makes a man of my temper feel  
Like praising the same always.  
For it's taken the maid next door, who sought  
To constantly pound the piano-forte  
To another brand of athletic sport  
That bears her miles away.



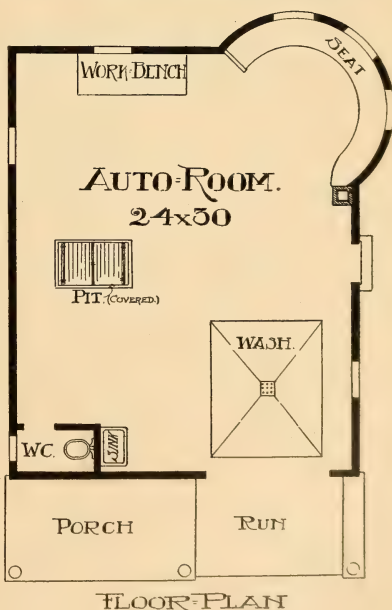
## An Attractive Garage

IN these days of improved manufacture it is easier by far to get a satisfactory automobile than it is to secure an equally satisfactory place to keep it after you have got it. Herewith is shown the plans and profile of a very complete and attractive appearing garage, built for Mr. William Morse at Hackensack, N. J. The



architect, William A. Lambert, has succeeded in combining comeliness with convenience in a way which is highly creditable to him as well as pleasing to others.

Mr. Morse, whose present vehicle is a 9 h. p. Darracq, has only lately been converted to the gasoline carriage, his former ones all having been of the steam driven type. With the smooth running gasolene vehicle he now uses, Mr. Morse finds it both a pleasure and a time-saving method of traveling between his Hackensack home and his place of business in New York.



## Automobile Possibilities in Porto Rico

GEORGE E. WALSH

**T**HE introduction of mechanical traction in Porto Rico brings old and new conditions into prominent juxtaposition. Our new island possession in the Atlantic is a century or more behind the times in many respects, especially so where transportation facilities are concerned. There one finds rickety old stage coaches, half-starved mules and ponies, two-wheeled vehicles, sometimes drawn by man and sometimes by beast, and if one wishes to travel across the island he has his choice of these ancient relics of an unambitious past. There is one good road running across the island, and its eighty miles of smooth surface presents an attractive appearance, but otherwise good highways are few and far between. One may climb mountain trails and roads on mule back, but they are not to be classed as modern highways.

The Spanish occupants of the island built the old Ponce road in 1868, and they put good work on grading and constructing it so that it presents a uniformly hard and even surface to-day. During the rainy season the disintegrating effects of the elements on the roads are tremendous, for the water pours down steadily and washes the light surface soil and stone off rapidly. The Spanish authorities divided the highway into sections, with road houses at every section where laborers lived to look after the road. In this way the highway has been kept in excellent condition, and it is to-day a pleasure to ride the entire length of it.

Motor vehicles made their first appearance in Porto Rico during the present year, and although unpopular at first, they have now become important transportation factors on the island. As there is little chance of an electric railroad being constructed on the island to parallel this highway, automobiles for public services promise a quick solution to the transportation problem presented. It is hardly consistent with American ways of traveling to depend upon the old-fashioned stage coaches or pony riders on the island. It practically takes more than twelve hours of steady riding to cover the distance, and four changes of horses are necessary. If one takes the trip by pony he makes four different re-mounts. These pony carriages are wonderful affairs in the eyes of the natives, for they represented the actual rapid transit of the island. One covers the eighty miles to Ponce and return at a cost of \$32. Only two

passengers ride in each conveyance, although at a pinch three friends can be accommodated.

Since the appearance of the automobiles on the islands, old conditions of traveling have received a serious blow, and it is possible that the pony riders and coaches may soon disappear from Porto Rico's great highway as completely as the pony mail carrier of the West has been effaced from the map of this country. In the first place the automobiles which make the trip do it in nine hours, and charge only \$15 for the round trip. This saving in time and money is sure to prove the death blow to the old system.



At present there are not sufficient accommodations for the traveling public in the automobiles, and the ponies and coaches still have a use. They will not disappear until the route is amply provided with all the automobiles necessary to carry those who wish to travel in them between San Juan and Ponce. One can, if he is fortunate enough to get a seat in one of these vehicles, leave San Juan in the morning and reach Ponce in the early part of the afternoon.

There is probably no more picturesque and attractive ride in the world than this trip across Porto Rico in one of the public automobiles, and it is a journey to be remembered. The motor vehicles have canopy tops, with three seats for the passengers, and



so arranged that the hot sun can always be shaded from the eyes. The road in the dry season is in most excellent condition, and there is very little dust and few rough places to bother the travelers. The automobiles have to possess horse power enough to carry the vehicles and passengers up some pretty steep inclines. The first automobiles on the island did not give very good satisfaction because of their deficiency in this respect. At times passengers had to dismount and climb steep places while the vehicles puffed up alone.

The whole trip is a delightful variation from the ordinary journey in the United States, or any island or land nearby. The small towns and villages are distinctively foreign in their appearances, and the vegetation, the white soil, and the trees and flowers, are all tropical in character. At first the natives stared at the automobiles, and followed them in awe, but now they have become accustomed to their appearance, and they merely wait to meet them in order to sell fruits and refreshments to those who travel in them.

The early part of the trip is along the coast and on a comparative level, but as the vehicle goes inland the character of the country changes. The wooded portions become heavier and more wildly picturesque, and the road continually climbs hills and winds around the summits of others. By the time the middle of the island is reached, the vehicle is running over a strictly mountainous road. It is this portion of the trip that gives the greatest delight. While the surface of the road is smooth and fine, it follows the contour of the rough mountainous land, so that one is almost riding on the top of sharp pinnacles at times, and again skirting around their base or descending into deep ravines. The views are magnificent in places. Some of the mountainous curves are sharp and sudden, so that it requires an experienced chauffeur to guide the vehicle around them without accident. A little carelessness in the way of too much speed at the wrong place might produce a catastrophe. Automobilists who have guided their private vehicles across the island, say that it is one of the safest, and yet one of the most threatening journeys that they have ever undertaken.

The road winds around the sides of two mountains, with a deep cut between them, but it reaches a considerable altitude in the middle, and runs around steep cliffs and into sharp ravines in the most picturesque manner. From some of the high points the view of the surrounding island is beyond description, and one may view

the ocean in the distance on clear days. It is this picturesque nature of the journey, either in a private automobile or in the public conveyance, which makes the journey so very enjoyable. Since the trip can be made within a day without inconvenience in an automobile, the travel has doubled, and with more modern vehicles operated on the island, the traffic will quickly expand to a much greater extent. Efforts are being made to carry freight, fruits, farm produce, and the mails by means of automobiles, and it is not unlikely that within a short time this will be accomplished. The mechanical vehicle is really the only modern conveyance for the



island, since the population is so scattered and so small that trolley lines would hardly pay.

Since the island came under the jurisdiction of the United States, road improvements have been carried on rapidly, and not only has the old highway been kept in good repair, but many new stretches of roadway have been opened. Some of these are short ones, built to connect two or more thriving towns and villages. One of the most ambitious of the new highways, constructed under American supervision, was opened this spring. It runs from Ponce on the northerly coast through Utuado to Arecibo, making a total distance of about sixty miles. This road will be, in all respects, as fine as the main highway, built by the Spaniards. Like the former it runs through a mountainous and picturesque part of the island, but it skirts the ocean front so that the water is visible at many

points. The grades are not so steep and hard as those on the old Ponce road, the highest of the latter being three thousand feet above the sea level, and of the former scarcely two thousand. The climb to the highest point on either road, however, is something that one must take into consideration before attempting the trip. The automobiles owned by private individuals are rapidly increasing in number, and last winter more than a score of them came to the island for the purpose of touring. A few of the wealthy native planters have automobiles now in which they ride about to inspect their crops and workmen. The contrasting scenes which are thus presented to a visitor are rather prophetic of the times, and especially of the island possession which we hold in the Atlantic.

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### Their Favorite Meeting Place

"If two scorchers started from their club house, one who could go twenty-five miles an hour, at 10 o'clock, and the other who could go thirty miles an hour, at 10.30 o'clock, when would they come together?" was the question asked the boys' class by a Long Island teacher the other day. There was an oppressive silence before little Johnnie, who was near the foot of the class put up his hand, signifying that he had solved the problem without the aid of slate or pencil.

"Well," said the teacher expectantly, "where would they meet, Johnnie?"

"At the first good road house they come to," was the demoralizing reply.

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### Motorisms

A motor on the road is worth two in the ditch.

There's many a "panne," 'twixt they can't and they can.

Dead dogs tell no tales.

If necessity is the mother of invention, then opposition may well be called its foster-parent.

He who spills last, spills on top!

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### He and Rafferty


The scorcher now rushes on the scene

And claims the earth as his;

But Patrolman Rafferty runs him in,

For that is Rafferty's biz.






A drowsy drone;  
A garden sweet;  
And, all alone,  
In kirtle neat,  
So deft and prim,  
To guide the reel,  
With sunshine in her dove-  
like eyes,  
The maid Priscilla daily  
plies  
Her wheel.

1700

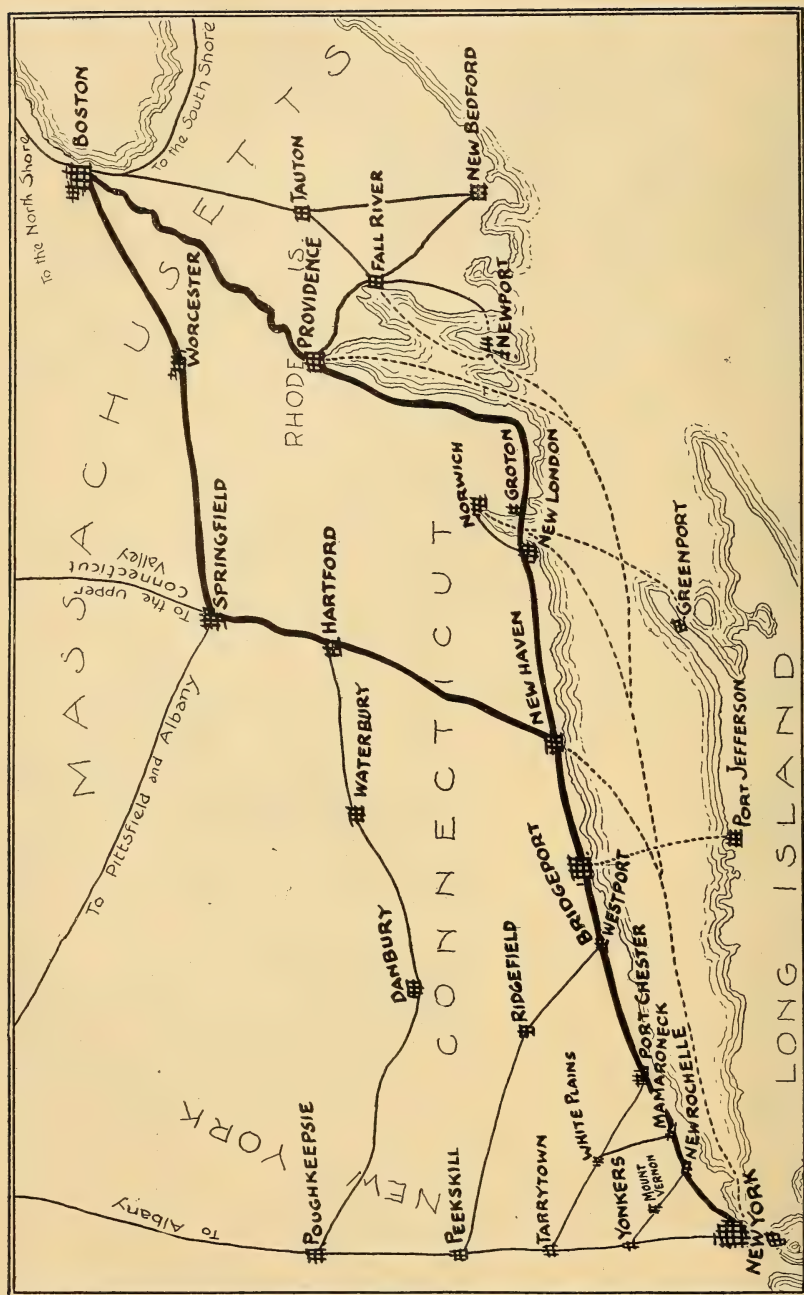
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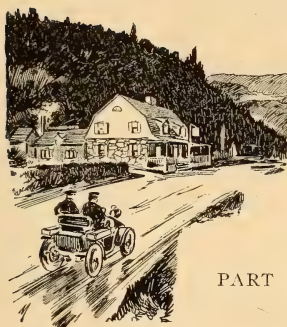
1900



A noisy street,  
Or road or park,  
Where fashions meet,  
By day or dark;  
In leather clad,  
From head to heel,  
And resolution in her  
eyes,  
The modern maiden deftly  
guides  
Her wheel.



# Touring Department



## New York - Boston Route

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PART II: THE NEW HAVEN-SPRINGFIELD-WORCESTER DIVISION.

THE direct route from New York and the lower Hudson into New England (No. 2 of this series, published in June) divides at New Haven into two equally important trunk highways. One leads through Wallingford, Meriden and Hartford into the Connecticut River Valley to Springfield, thence through Parmer and Worcester to Boston; the other continues east and northeast from New Haven through New London and Providence to the same city. Usage has fixed upon the former as the "Springfield Route," and on the latter as the "Shore Route"—terms borrowed from current railway practice and convenient as well as definite.

Reaching Boston with nearly equal calculations in time and mileage, these alternate routes differ in many ways. The Springfield line (180 miles, New Haven-Boston) at once leaves the Sound and crosses the State of Connecticut upward into Massachusetts, through an uninterrupted line of busy towns and cities. Thence it is a hill country to the end—the lower center of the old Commonwealth to its ocean doors—with the hum of industry much the same all the way. The Shore line (168 miles, New Haven-Boston) follows the water-front as far as Providence, and only for the remaining 45 miles does it go inland at all. Its towns and cities are fewer and less concerned with the progress of things.

One may take his choice between these routes, for both are practicable for all types of staunch touring automobiles. On the whole, the roads of the Springfield line are better, for they are higher and firmer, as well as more carefully looked after, while there is more or less sand—and a great deal of road-neglect—the other way. The automobilist who wishes to get the most out of a single trip could scarcely do better than to go to Boston by Hart-



ford and Springfield, returning by Providence and New London, in which case he will have only the ride back to New Haven in addition to his single long circuit. And if for any reason his time is shortened or mishap befall on the return half, he can take boat back from any one of half a dozen Sound ports, without having missed any portion vital to the understanding of the section as a whole. The present paper deals with the detail of the Springfield Route, and in the issue following, the Shore Route will be taken up in the same manner, completing the direct all-land routes between the two cities.

#### THE NEW HAVEN-SPRINGFIELD PORTION

One who has made the run up from New York, with the intention of turning north at New Haven, will seldom experience any regret at leaving the Sound. The waters that have been in sight, more or less, from the Hudson or the Harlem, are the familiar waters of the Metropolitan and Eastern District, and the shore views inevitably diminish in interest, even though the 80 miles or so are covered at speed. There is something inviting about the uplands of New England—particularly if a fine portion of the Connecticut River Valley be the gateway to them—and the spirit moves to be up and on. Unless it is desired to stop at New Haven, the tour can be continued, with the assurance that ample accommodations may be had every few miles all the way to Springfield.



State street, the direct thoroughfare out of New Haven to the north, is reached by a right turn, down two blocks, from the corner of Church and Chapel streets, the center of the city and the usual end of runs from New York and intermediate points. It is, however, stone-paved and car-tracked, more or less crowded with traffic and withal a commonplace exit. For an altogether better—



well-nigh perfect—one, turn to the right down Chapel street, one block instead of two, and take first left up Orange street. This street, which is perfectly paved with asphalt and lined on both sides with young elms, leads through a fine new residence section of the city and has every advantage except that of being of itself an independent roadway into the country. To get back onto State street, follow Orange for about a mile and turn right on Lawrence (preferred) for five or six blocks, coming out alongside the N. Y., N. H. & H. R. R. tracks opposite Cedar Hill station. Orange and State streets, though nominally so, are not exactly parallel, hence the difference of one block between them on Chapel street downtown becomes five or six blocks on Lawrence street farther out.

Heretofore you have seen nothing of the many railroad tracks that surround this portion of the city, but from now on you have them, either on one side or the other, and scarcely ever out of sight, all the way to Springfield. It is straightaway and over good roads, six and one-half miles more to North Haven, which enter by a right turn, over the Quinnipiac river (larger in name and on the map than in reality) and pass the railroad station. A short distance beyond (the first clear-up road) turn left. The signs at this point read: "12 miles to Meriden by Cycle Path," and the like are repeated, only with changed numerals, for several miles.

The cinder path lines the road as the signs would lead one to expect, and the reason is not far to seek. This section of road is built largely upon sand of the light, deep, impassable order, from which the laying of macadam is gradually emancipating the traveler. Two or three short stretches yet remain to wallow through, and it is the part of caution to run up on one side so as to get at least one track on solid ground. It is expected that before long the work in progress both above and below will meet and

give a good road across all of Connecticut. In the meantime a single experience with these mellow sands is an insight into the conditions that ruled on a larger scale only a few years ago, and explains why the cyclists of the '90s built their own side-paths rather than wait the slow improvement of the highways.

Go straight through Wallingford (the railroad station to the right) past Yalesville, and on to where the road is carried under the railroad tracks. Here keep to the right (the left is another and longer way back to Wallingford) coming shortly to where the road forks for two different entrances into Meriden. The left one is better, downhill and alongside the street car tracks, which follow until they come into the center of the city immediately below the railroad station. Turn just far enough to the left to get a clear ahead on Colony street, which leads north, at first with, then across the railroad tracks, into the country. Signs show the way except at one point three miles out where the road forks for a short distance, becoming one thoroughfare again before one is aware. The left fork is most used, however, taking one through Risley's Corners, where bend right uphill and on as before.

Thence it is direct to the residence portion of Berlin, where two optional routes are offered to Hartford. It is exactly 10½ miles straightaway through the open country as far as Cedar Hill Cemetery, Hartford, thence Fairfield avenue to New Britain avenue to Washington street, which brings direct to the State Capitol. The roads are of common dirt and red gravel until the city is entered, where excellent macadam and asphalt succeeds. The Berlin station-New Britain route coincides with the one already given where Fairfield avenue comes into New Britain avenue, from which point they are one to the end. In fair weather one may take his choice of these two routes from Berlin but in wet weather the one by New Britain is preferable on account of its leveler going and the greater amount of pavement that way. At the Capitol grounds, turn right into Capitol avenue and down under the Memorial Arch, coming out between the Union Railroad station and the business center of the city.

If it is not desired to stop at Hartford, keep straight ahead from the Memorial Arch, cross the street leading to and from the depot and go over into High street, which is a connecting link to Windsor avenue, at the junction also of Main street (the way out from downtown). Windsor avenue leads straight,



through pleasant country, to the small town of Windsor where, leaving the car tracks, it turns right across a corner of the park, five miles to Windsor Locks. Coming into this place, one will see a short bridge to the right over the canal and just beyond a longer bridge over the Connecticut.

Cross here to Warehouse Point and to the Springfield side of the river, Hartford being on the opposite (western) side. Go up through the town three or four blocks and turn left with the car tracks past Warehouse Point station and due north. A short run will bring one opposite but not into Thompsonville. Keep straight ahead at this point, alongside the main car tracks, else the automobilist will unconsciously be carried into Thompsonville and out again onto the same road. Straight ahead—over the interstate line—is Longmeadow, whose wide, well paved streets hasten one toward Springfield. Descending the hill just beyond Longmeadow, the city of Springfield and its environs spread out like a picture. The road bends right with the river, past the east entrance to the South End Bridge (to and from the Agawam district), and alongside a portion of Forest Park. Instead of turning into the Park, go left downhill into South street, which begins at this point and parallels the river and railroad tracks for a distance. Keep with South street to Main, which follow to State street—the corner of State and Main being marked by the large building of the Masonic Temple on the nearer right-hand corner. This is not only the center of the city, but the beginning of the final run to Boston.

#### THE SPRINGFIELD-BOSTON PORTION.

Springfield is the hump of the trip. The sixty-five miles (rather more than less) from New Haven bring one into the rail and highway lines across the State east and west, and of the original run from New York only a trifle over 100 miles remain. This last section—the old Springfield Century Course of the wheelmen—can be covered in from four to six hours if need be, but it is much more pleasantly taken as a separate day's trip, allowing a leisurely start, a regular pace and a seasonable finish.

From the corner of Main and State streets, take State street up a steady but not bothersome grade, passing the United States Armory to the left on what is known locally as Armory Hill. A stone in the farther group of buildings marks the battle place of Shay's Rebellion, January 25, 1787. Fine residences line the way. It is macadam, dirt and brick pavement to Winchester Park, a small

open space a mile or so out. Here the road forks. To the right is the Wilbraham Road, south-by-east through Sixteen Acres to Wilbraham. State street (which keep) continues on the left and at Pine Point, opposite St. Michael's Cemetery, three miles out, there is offered a choice of routes to Palmer, twelve miles beyond.

The Boston Road (to the right) is direct through the open country to North Wilbraham, while the road to the left (Berkshire street) goes via Indian Orchard and Ludlow. The Boston Road, the shorter of the two and the one preferred for through travel, is fair-to-good riding and makes straight for the hills that look up ahead, while one taking it sees over to the left the towns he would have passed through the other way. Eight miles out from Springfield, there is a long hill with fine new State road all the way up and all the way down—different from our memory of it in the middle '90's. At North Wilbraham station the road goes down under the B. & A. R. R. tracks and continues on the other side to Palmer over poorer roads and more broken country, more or less of the way along the Chicopee River, which flows back into the Connecticut at Chicopee, just above Springfield. \*

It is not necessary to go down into Palmer, but as there is no other city of equal size before Worcester, a stop here will usually be made, particularly if no delay be had at Springfield. Accommodations are fair. In going out of Palmer, continue on the main downtown street to where it brings to the overhead crossing of the railroad tracks. Here turn left, and go one block to this short street's end (an old white church at the head), turn right enough to round the next corner, one more block left, turning to the right, onto the Worcester road in front of the schoolhouse. This is a maneuver more difficult to describe than to make. New, perfect State road stretches up and away from this point and a bit of speed is justifiable. Do not cross the railroad tracks until the State road, plainly shown, carries you under and quickly back onto a continuation of itself again. Four miles from Palmer, the State road ceases and the poorer dirt road crosses both the river (the Chicopee no longer but the Quaboag) and the railroad. At West Brimfield station, two roads lead off into the country and one ahead, the sign reading six miles to Warren. Take this, through West Warren, one grand bend with the river and the railroad tracks. From Warren to near West Brookfield is one elegant stretch, the up-grades so smooth and so gradual as to be no obstacle, while on the down-grades you feel sorry for the B. & A. locomotives—since they are kept to

straight tracks and are denied the pleasure of such long "coasts."

Bend through West Brookfield and uphill into Brookfield. Here turn right, up alongside the small park, for one block, onto the Spencer road, signs showing the way. The highways on this section are mostly of common dirt, but well packed and usually in good condition. For the last two miles into Spencer it is uphill, the upgrade continuing through the town and the steepest of all on the way out. Were it not for the perfect surface of this rise, its climbing would bother many automobiles, but few are now troubled with it. Spencer and Leicester, the next town, are together the height of land on this trip, and the view in all directions is fine, extending over a wide circle of Massachusetts and into Southern New Hampshire. The down-grade out of Leicester should be made with caution on account of a steepness greater than at first appears; otherwise fair speed may be made. The Spencer road comes into Main street, Worcester, past Clark University to the City Hall, corner Main and Front streets.

From Worcester there are two principal routes to Boston, one following the Boston & Albany Railroad practically from beginning to end, from the City Hall, down Front street, turning to the right at the depot, thence Grafton street to North Grafton and Westboro. This is the shortest way and the one most easily followed, as it keeps with the railroad tracks also through Cordaville, Ashland and South Framingham to Natick. The more picturesque way, however, is from the City Hall, down Front street to the Union Depot as before, except that here turn left (Shrewsbury street, unmarked) along with the street cars to Lake Quinsigamond. Cross this long, narrow lake by a causeway, and go up a long hill (Maple avenue) to Shrewsbury Center, and on to Northboro and Southboro. The single drawback to this route is that it is a veritable clearing house for cross-roads, making it impossible to catalogue all the turns necessary to be made. However, the Boston signs begin to appear and will bring one into Southboro all right.

Leaving Southboro, go straight ahead, and cross the railroad tracks at the station, at once turn right and go straight over the causeway covering an artificial lake which is a part of the Boston water supply. Beyond this causeway the road forks, the right fork going to Fayville and the left direct to Framingham Center. Take the latter, go straight through the town, into Eastern avenue, which keep until four corners are reached, with the street cars between Wayland and Natick crossing at right angles. Turn right and



follow the car tracks a mile or so to Natick, where the other route from Worcester, along the railroad track, joins. Keep to the left on Washington street past Wellesley and Wellesley Hills, into and through Newton Lower Falls. On the same street—midway between Newton Lower Falls and West Newton—Commonwealth Avenue Extension crosses at right angles and is the best route into Commonwealth avenue, to the Public Gardens and the center of the city of Boston.

The accompanying map shows two additional ways of bringing this trip to an end: (1) the old way, via West Newton, Newtonville, Newton, Oak Square and Brighton; (2) via Newton Center and around one side of Chestnut Hill Reservoir, thence Beacon street to Massachusetts avenue (Harvard Bridge entrance). As a finish of a long run, however, the route as first given is preferable in every way; and the two optional ones can be made into a very pleasant half day's circuit out of and back to Boston, with Newton Lower Falls as the turning point.

### Difference Between Tweedledee and Tweedledum

"Are you sure this automobilist was going faster than the law allows?" asked the judge.

"Absolutely certain, yer honor," replied the policeman.

"But it is possible to be mistaken on such a point."

"Not in this case, yer honor. It was going so fast that Alderman Clancey who was trying to pass him couldn't do it and he was driving a trotter what does his mile on the road right along in 2.15 and better."

### Because He Didn't Have To

"Poor Kerry Seener hardly ever sets a foot on the ground now."

"You don't mean it? Has he become a chronic invalid?"

"Oh, dear no. He owns a big touring car and spends almost all of his time in it."

### Not In It

Oh, Charlie Gold may beach his yacht

And lay her on her keel;

The belles for him don't care a jot—

They want an automobile.

## “Lifts” Toward the Springfield Line

**I**N listing the optional land and water routes between New York and Boston, in the last issue, no note was taken of Sound steamer lines other than those making their principal landings midway or farther on the trip. The omission of all boat lines within the 100 miles' limit simplified for the time the consideration of through routes into New England, while making the general outlines more distinct. The locally unacquainted tourist will likely find such a plan well suited to his needs. Its other effect was to make of the New York-New Haven portion either an indispensable link in the first half, or else to cut it out altogether by passing around and beyond it by water.

The more one knows of this section, however, the closer will he look for opportunities to do in a new way that which he may have done by rule or by direction before. To most automobilists resident in the Metropolitan District, for instance, the route to the Connecticut line is an open book, and when they go over it again—even on the way to some distant point—the trip over this portion is more or less an endurance run, with something else in the mind's eye. To such the chance to be carried to some favorite intermediate point will especially appeal, making possible a fresh start on farther ground and bringing the final destination so much nearer at a stroke.

Southport, Conn., the turning point of the 100 miles' endurance run on Memorial Day, is only a few miles out of Bridgeport, and one who has covered that course will miss little or nothing by taking the Bridgeport line (from Pier 39, East River, foot of East Thirty-first street, New York), a four hours' sail, landing just below the N. Y. N. H. & H. depot at Bridgeport. In this case, go up to the depot and over the bridge onto Stratford avenue, to Stratford, Milford and New Haven, as given in detail in the June number. This line is convenient one for those starting from near the center of Manhattan, or coming over from Long Island by the Thirty-fourth street ferry.

The New Haven line is well suited for those who start from downtown Manhattan, from Brooklyn, via the Bridge, or from Staten Island. Especially if en route from New Jersey and below to New England, via the Staten Island ferries, the saving in time and distance may be considerable, as the New Haven boats leave twice a day from Peck Slip, Pier 25, East River, near foot of Fulton

street. This option gives a four and one-half hours' sail and, though it lands in a seemingly difficult place, the way out is quickly and safely made. Go out from the dock at New Haven, onto Bridge street, turn right with the street cartracks one block to Wooster street, thence left on Wooster until the way ahead is broken by the guards protecting an underground railroad crossing. Here turn right onto Chapel street, which follow left up either to Orange street (to the north), or to the corner of Church street, the edge of the Common and the center of the city.

There is one more opportunity of this kind to get above New Haven on the Springfield line, and it may interest any tourist who has a desire to be placed at once on the firm roads characteristic of the upper sections of this trip. The Connecticut River is navigable for commercial craft as far as Hartford, and the Hartford and New York Transportation Company run boats daily except Sunday between Pier 24, East River, (below Fulton street) New York, and State street, Hartford. This is an all night trip, as the entrance to the Connecticut River from the Sound is at Saybrook Point, thirty miles or so beyond New Haven, from which the course is north-by-west, coming into our New Haven-Springfield route at Hartford. This seems to be the only way to keep to this route in the main and yet avoid the few bad sand stretches between North Haven and Meriden, of which mention is made in the larger article in this issue. That trouble may be had at these points is undeniable, but the trial is short and before long ought to be done away with altogether, as progress is being made from above and below. Working its way up the Connecticut, the Hartford boat makes intermediate landings, principally at Saybrook, Lyme, Middle Haddam, Middletown and Glastonbury, but leaving it at any one of these places means an early rising, as the Capital city is reached soon after 7 A. M.

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The addition of these three optional land and water routes to those named in the preceding issue by no means exhausts their possibilities even on the first half of the Boston tour. It is a section teeming with variety, and almost any reasonable kind of trip may be, as it were, built to order. The ready man will have work for his constructive faculty once he is placed somewhere up in New England and starts to figure himself to some other place. It can be made an absorbing bit of pleasure, or of work, which ever one chooses to call it. Any point not already made clear to the reader will cheerfully be taken up by our information and correspondence department, and the special requirements of subscribers, if possible, sought out.

R. B.



# A FLY-TIME IDYL

W. W. Whitlock

A horsefly sat on an automobile,  
And remarked to a friend on the other wheel:  
"I say, old chap, it's rather tough  
To have to live on this rubber stuff;  
What are we to do, I'd like to know,  
If it's true, as they say, that the horse must go!  
Can we live on wind or caoutchouc,  
Or the paint from the wheels when they're bright and new?  
In vain I've searched for a horse to-day—  
Oh, I found not one on all Broadway!  
And for lack of food I am faint and weak—  
Oh, where, oh, where, were it best to seek?"

Now the other fly was a wise old fly,  
And these were the words he spake in reply:  
"'Tis true, as you say, that the days are gone  
When horses were plenty for flies to feed on,  
And a fly to-day may travel far  
And find at the end but a motor-car;  
But despite this fact, there is still no need  
To despair at the dearth of the succulent steed,  
For a fly that is wise, when he finds that horse  
Is a thing of the past, will adopt perforce  
Himself to the styles as they come and pass,  
And in lieu of a horse will essay an ass."

"I see," said his friend, and he took a bite  
Of the scorcher, and he cried: "Out of sight!"

## Willie Rushmore's Diary

**M**ONDAY—Bought a 40 h. p. Panarracq. Christened it the "Solferino Spook." Engaged a Swede for chauffeur. Bought a pair of goggles, a leather coat and a fried-egg cap.

Tuesday—Was out on the road for the first time. Runs like a watch. Think I'll like this game.

Wednesday—Tried to run the Spook without any help from the Swede. By the time I got home found I knew more about an automobile than he did. Guess I'll leave him in the stable next time. On the second speed beat the champion of the cycle police quarter of a mile in a twenty-block chase he gave me. I'll like this game, I know I will.

Thursday—Negotiated a corner at full speed. Wasn't much hurt, but let the Swede take the Spook to the repair shop. He seemed put out about being thrown out, but it's all in the sport. Promised to race Bertie Burnoil to-morrow at 12 o'clock from the Castoria to the Battery for the street scorching championship and a barrel of gasoline. I like this game, all right.

Friday—Nothing but hard luck. Ran into a beer wagon, collided with a cable car, got arrested for breaking the speed ordinance, lost to Bertie in consequence. Sent the Spook to the repairer's. Swede gives notice he's got enough. The game is all right, but——

Saturday—Tackled Long Island. Seems as though every fool fowl on the entire island waited for me to run over it. Paid for six ducks, eleven chickens and two geese; paid well, too. Crazy calf tried to take up the whole road and I just hoisted him over into a neighboring field out of harm's way. Held up by a telephone message, sent by the calf's owner, and arrested. Owner said he wanted \$5,000 for being deprived of that calf's services and affections. Refused to pay; left the Spook as collateral. Trained in to Long Island City, cabbed it to the Castoria, told my experiences to Bertie and the boys, and found myself the hero of the hour. Two or three functions and a ping-pong party announced in my honor. Swede has quit, says my autoing is too strenuous for him. Great game!

Sunday—Wrote checks for the driver of the beer wagon, the motor man, the repair man, the lawyer, the calf owner, the Swede and some others. Concluded I'd rest for the remainder of the day.

## One of the Progressive Type

**I**T is no easy thing to make a man of millions forsake horses for motors, or even induce him to share his affection for the animals with the automobile. When, however, this does occur, it says much for the millionaire, the motor carriage and the latter's maker. The illustration shows that St. Louis has a millionaire who is progressive enough to own and to enjoy an automobile, and shrewd enough to have chosen a mighty good one to own and to enjoy. The gentleman is H. S. Rumsey, head of the big St. Louis concern, the L. M. Rumsey Co.; the vehicle is a Haynes-Apperson. With this conveyance Mr. Rumsey has been able to enjoy trips which his regard for the comfort of his horses absolutely prohibited him taking in the past. No matter how willing and able an animal may be, his owner, if he be a humane man, does not care to call upon him for trips of 50 to 100 miles in length. The consequence is that the surrounding country is a terra incognita to most city men until they are progressive enough to do as Mr. Rumsey has, and get a big, comfortable automobile which regards a 100-mile journey quite as a matter of course.



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### Answering a Fool According to His Folly

He thrust the sealed letter through the window and put down two cents.

"Well, what do you want?" asked the stamp clerk, gruffly.

"An automobile, please," he replied sweetly, being somewhat inclined to facetiousness.

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### Scorching Words

The scorcher, motoring swift and fleet  
Ran into Deacon Brace;  
The scorcher fell some forty feet,  
The deacon fell from grace.



# The Victory of Flyspeck Bill

HENNEPIN HUSTIS

It was after the arduous labors of the Wild West show were over. The time for rest and all the rest had come. The man who had the thankless job of heading the Spaniards, who twice each day defended San Juan hill and died doing it, was talking. What he talked about was how Flyspeck Bill, the roving ruler of the ornery cayuse had conquered the cussedest automobile what ever stood on four wheels.

Everybody knows the redoubtable William whose misfortune it is to have had his name so decorated as to make it one which would be objectionable to anyone more fastidious than its owner. It is said that originally Flyspeck Bill rode bucking broncos with Biffalo Bull until professional jealousy made it more pleasant for him to quit. It seems Colonel Biffalo became envious of Flyspeck's hair, which grew to an astonishing length. Colonel Biffalo was growing bald, and the sight of Mr. F. Bill's luxuriant locks was a little too much for him to endure. But it is not of Mr. F. Bill's past I would write. It is of his bucking boilerized mount and his conquest of it.

This famous superceder of the horse was manufactured in Bloody Gulch, Arizona, by the Lone Pine Company. They say two Mexican Greasers and a Digger Indian lost their lives trying to ride it before it was shipped East. When it was unloaded at the stock yards, where the show was then outfitting, it was run into an improvised brand chute and marked with Mr. F. Bill's brand. This brand is a fly spread-eagled on a dobe wall much like that used by the Czar of Russia to mark his table linen. In fact, it is presumed that the Czar saw Bill's mark, liked it and then lifted it.

After being duly branded, because no self-respecting cow-puncher would think of connecting himself with a mechanical maverick, the steam snorting terror was taken to the grounds where the show was breaking in stock for use in its forthcoming tour of the country. Mr. F. Bill appeared upon the scene looking white, but determined. His hair was twisted into a harder knot than usual and his hat was pulled down upon his head. He wore buckskin "chaps" and gauntlet gloves.

As he walked a pair of large Mexican spurs clanked at his heels. He was observed to nervously tighten the leather belt around his waist and to pluck at the red silk handkerchief knotted picturesquely

about his neck. The sound of a terrible struggle was heard, and then two men mounted on plunging cow ponies came into the open, dragging with difficulty a vicious-looking automobile which was sweating steam at every joint and squealing, so the narrator of this dark deed declares, defiance at every revolution of its wheels. Two more men came out, each carrying a lariat.

"Now, rope her, fellows, till I get on," sung out Mr. F. Bill.

The ropes circled for a moment about the heads of the men and then shot out straight as arrows. The automobile reared and fell upon its side with great gurgling gasps rending its steam chest. Mr. F. Bill approached cautiously and stood over the prostrate, but protesting machine.

"Loosen up now," he cried excitedly.

Thereupon the rawhide ropes were slackened and the automobile was right side up, all four wheels on the ground, quick as a flash. Quicker even than the flash was the action of Flyspeck Bill and firm was his seat on the leather covered cushions. It was a moment of intense excitement. Even the stoical Indians in the background became interested enough to exclaim "Ugh!" The automobile roared and it reared, while the fair cowgirls, clad in the store clothes of their non-professional moments, became so interested in the struggle as to temporarily forget that each was provided with a wad of chewing gum.

The unconquered vehicle bucked as only an automobile with Western wind in its tires and alkali water in its boiler could buck. Twice round the lot it went with Flyspeck Bill still on the seat. A shriek went up from the cowgirls and others as the redoubtable Flyspeck also went up and coming down landed smack on his head. The liberated automobile tore madly around the corral, while its would-be conquerer arose and shaking his tangled locks from his eyes (he had lost his hat and his hair pins), cried: "Rope her, fellers!"

Once more the ropes cut the air and to a stop came the vehicle. When it was released again the gallant Flyspeck was in the seat. The battle waged fast and furious; the angry auto, despairing of dislodging the doughty Bill, dashed him against the fence which encircled the lot and prevented its escape, but Mr. F. Bill still remained seated. Sometimes it seemed as though he surely must go. He used his spurs in a manner that would have been sufficient provocation for a Society for the Prevention of Cruelty to Automobiles representative to have had him arrested on the spot.

Gradually the machine seemed to realize it had found its master, for it bucked less violently and eventually gave in entirely. Mr. Flyspeck Bill dismounted, and tossing his curls again bowed low to the cowgirls to the right and squaws to the left and retired from the arena, while a couple of men pushed out of sight a vehicle whose boiler showed a plentitude of punctures where the trusty rowels of the gallant Bill had rent and ripped until steam no longer stayed within.

Thus did the roving ruler of the ornery cayuse, Flyspeck Bill, conquer the cussedest automobile which ever stood on four wheels, as told by the man who led the Spaniards when the time for rest had come.

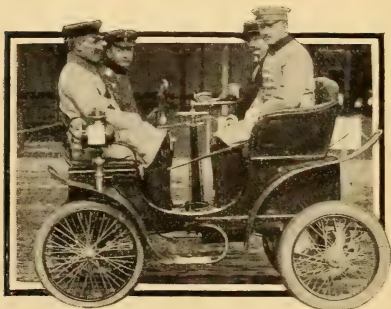
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### King Cole

Old King Cole  
Was a merry old soul,  
    And a merry old soul was he;  
He called for his pipe and he called for his bowl,  
    And he called for his fiddlers three.

So old King Cole  
Got his pipe and his bowl,  
    But his fiddlers where were they?  
They had taken their autos, each jovial sou'  
    And merrily ridden away!

So old King Cole  
Spurned his pipe and his bowl,  
    And he said to his slave, said he:  
"Well, I guess I'll go for a bit of a 'roll,'  
    So fetch my motor to me."

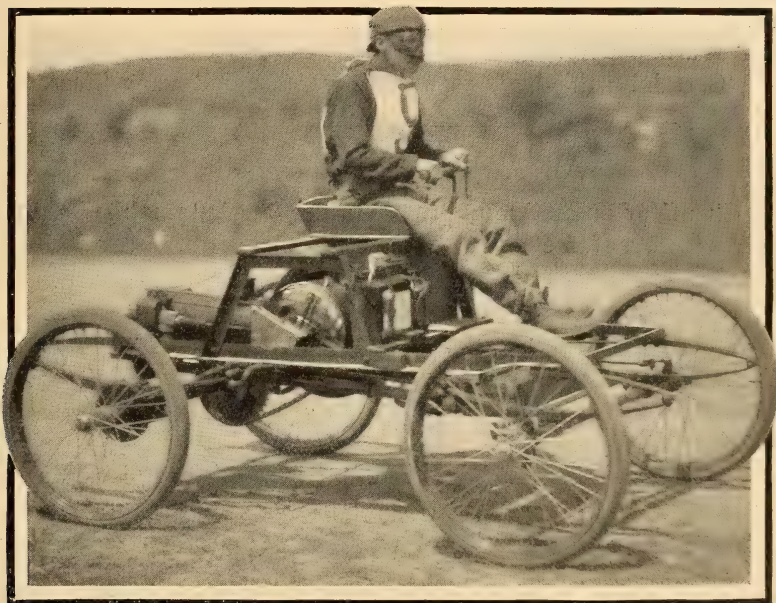




## Supplying Horse Sense by Contract

IN one of the summer abodes of New Yorkers, heretofore but little short of a horse heaven, an enterprising native has hit on the idea of making a profit out of the introduction of the automobile and the apprehensions of the visiting colony. He has founded an automobile academy for horses which has met with complete success, as timid drivers have availed themselves freely of the advantages he offers.

The shrewd native has become the owner of a small but extremely noisy motor vehicle, with which he agrees to frighten horses at a fixed sum by the hour. They are, of course, frightened by degrees, and with such delicacy that no harm comes of the ex-



An Automobile Jockey

periment, and they are thus prepared for the sight of machines operated with less regard for their feelings.

The beneficial effect of this practical training is soon shown in the animal's utter fearlessness of any sort or size of automobile. The only drawback to the business side of the enterprise is found in the lack of conscience of some of the horse owners.

The equine students are usually trained to accustom them-

selves to the machine on some sequestered road, and there is no way to keep away from the spot those who want to have their horses made equally fearless, but prefer to do it economically. So there are always one or two specimens of this something-for-nothing individual, who just accidentally, of course, happen on the spot and get their horses given a lesson gratuitously.

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### There Were Others

"Paw, there were no scorchers in the Philippines 'till we got there, was there?"

"No, my son; they had never seen an automobile until the Americans took possession of the islands."

"But there must have been some pretty warm people, all the same."

"Warm people?"

"Certainly; this book says there were a good many friars."

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### An Awkward Predicament

Chauffeur on an Around-the-World-in-an-Automobile Trip (to the projector of the affair)—Now, sir, that right forewheel has given away, and we're in a pickle.

Projector—What's to be done?

Chauffeur—Nothing, except to put on the reserve wheel.

Projector—Put on the reserve wheel, indeed! What do you suppose we are going to do then for another reserve wheel to decorate the vehicle with?

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### Solomon Was Never So Arrayed

"Isn't Rushmore's automobile get-up a bit loud?"

"A bit loud? I should say it was a whole lot, not a bit. Why, when he passes a vacant barn by the roadside that costume of his creates an echo."

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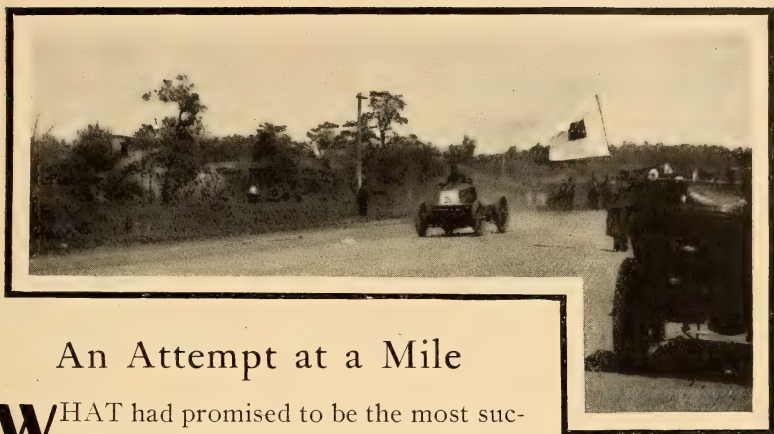
### Behind the Times

Under the spreading chestnut tree

The village smithy stands,

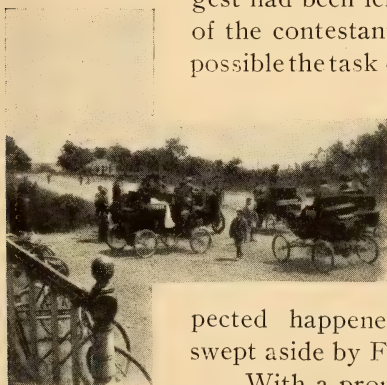
But the auto boom has knocked him cold

And his forge is on his hands.



## An Attempt at a Mile

**W**HAT had promised to be the most successful speed contest ever promoted in America on Saturday, May 31, was, through misfortune, changed into the most disastrous affair in the history of automobilism. Ten thousand people had journeyed to a little and almost inaccessible Staten Island village, yclept Grant City, to witness the attempts of American automobilists to annex the records for the mile and the kilometer. That all expectations would be realized seemed a certainty. Nothing that human foresight could suggest had been left undone to provide for the safety of the contestants and the onlookers, and to make possible the task of one and the comfort of the other.



From end to end of the course patrols, police, rails and ropes were employed to keep any one from placing themselves or the contestants in danger, and yet it was all of no avail. Once again the unexpected happened, and the plans of men were swept aside by Fate as though they had never been.

With a promptness for which the Automobile Club of America has become justly famous in all affairs conducted under its auspices, the first contestant was sent away exactly on time. Twenty-five trials had already been made, when, what was destined to be the most tragic event of the day, was reached.

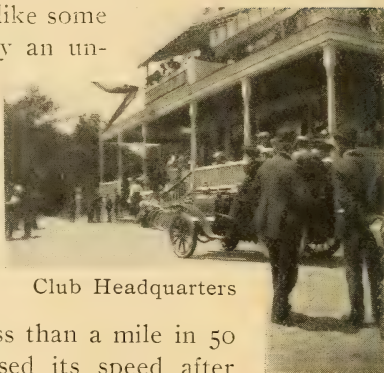
Far up the red strip of road a monster, such as few had ever seen before, and none now ever want to see again, was seen approaching at a speed which made strong men fairly gasp. In barely



30 seconds, swaying and rocking like some fearsome beast held in control by an unseen power, the Baker electric, for that was the awesome shape, swung round the curve in the Boulevard, and headed for the finish line then straight before it.

At the quarter mile it was evident to all that the vehicle was moving at a speed of not less than a mile in 50 seconds. If anything, it increased its speed after that. It was fulfilling all that had been claimed for it by its designer and builder.

Every one knew that if an accident did not occur a new record would be created. Many and the most experienced of the onlookers



Club Headquarters

were prepared for an accident and removed to a place of safety. The accident did happen, and it was all over so quickly that the onlookers were dazed. They could hardly realize that the vehicle had turned itself into a wreck and had brought death to those who but an instant before stood spellbound by its marvelous speed.



At the Finish

Swaying and rocking, the big racer came down toward Red Lane, and the operators made no attempt to reduce speed. Striking the tracks the forward wheels went up into the air and revolved so rapidly that they fairly sung. For a fraction of a second this lasted, and those who were where they could see had the impression that the machine had left the road entirely and was flying.

Then back it came to earth with a crash that made the hearts of all who could hear stand still.

What happened then is described in a different manner by



Kilometer Timers

each of those who saw. But all agreed that it was so sudden that no one could tell exactly what was going on. One thing is positive. No sooner had the crash occurred than the racer seemingly escaped from the control of the men who were guiding it. It veered to the side on which a wheel had

given way, and with a whirring, smashing sound, dashed into the crowd that lined the left side of the course.

No opportunity was given to the victims to escape. Before they knew that they were in the least danger they had been knocked down and lacerated by the plunging monster. A little further along and the racer halted, for the reason that there was not enough left of it to continue.

It was all so sudden and so horrifying that the crowd across the Boulevard remained still for two or three seconds. Then there was a rush that swept aside the ropes and barriers, and willing hands were extended to aid the maimed and mangled victims of the racer.

Immediately after the accident the contests, which were being held under the control of the Automobile Club of America, were declared off for the day. Those governing the meeting expressed their most sincere sorrow for the families of the victims and took such steps as were in their power to lessen their suffering.



Hospital Tent and Nurses

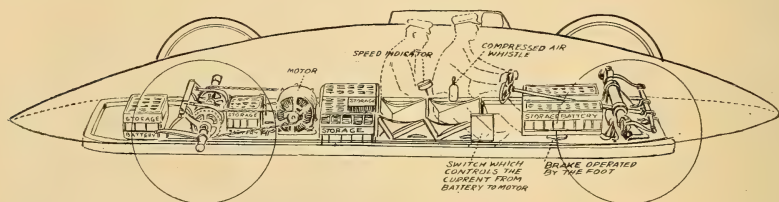


Looking Up the Course

Two men were killed and a score of onlookers more or less severely injured by the accident. The occupants of the vehicle miraculously escaped and were promptly arrested by the police. Later on the desire on the part of the local officials for cheap notoriety resulted in an unseemingly wrangle as to the possession

of the men responsible for the accident, who were Walter C. Baker, of the Baker Motor Vehicle Co., and W. E. Denzler, his chief electrician. Later the coroner's jury and the grand jury both acquitted the prisoners of any blame for the accident, thus bringing to an official end a most unfortunate affair.

As the drawing herewith shows the vehicle was not altogether unlike the famous Serpollet "Easter Egg," whose speed performances it was primarily built to eclipse. More than \$20,000 had first and last been laid out to produce it, while nearly a year of thought and study had been given to its designing and constructing. On four 40-inch, black leather covered wheels was placed a framework large enough to carry two men; 40 battery cells, motors, etc., a total load of more than 3,000 pounds. In action and in general appearance the vehicle looked the torpedo. Results proved that its looks in this respect did not belie it. After the accident Mr. Baker said to a *Motor World* man:



"I do not care a snap of my finger for records, but I wished to satisfy myself, and in time possibly the public, that my theory of employing power is correct; that it is not essential to have too great power to secure great results. Or, in other words, it has been my theory and practice in the manufacture of automobiles to secure the greatest possible results from comparatively little power. Such a result I believe I have secured, not merely by guesswork, but by most careful calculations and based upon the accepted laws of motion, atmospheric pressure and mechanical resistance.

"I believe in a small motor and little battery equipment. That from two to four times as much horse power is used as is necessary. Hence, to prove my theory I constructed the racing machine and carried its lines to the extreme. The lines of this racing car were as carefully considered as the designs for the swiftest yacht, while the mechanical parts show precision, perfect alignment and even balance.



"Anti-frictional devices have been my life study, and all I have learned in a long mechanical experience has been applied to this car. The motor had a normal rating of 7 H. P., but we developed to 12 H. P. in working up to high speed. In my belief the speed did not result from mere multiplication of power, but by reduction to the minimum of atmospheric pressure and mechanical friction."

At a subsequent meeting of the Governors of the Automobile Club of America the following resolutions were adopted:

Whereas the Automobile Club of America deeply regrets and deploras the terrible accident which occurred during the holding of the record trials by this club on Staten Island, on May 31 last,

Resolved, That although similar trials have heretofore been held throughout the world without serious accident, yet this accident upon Saturday, notwithstanding every safeguard that precaution could suggest was adopted, has convinced the governors of the club that it is unwise to hold speed trials with automobiles on the public highways, and that the governors of this club will not hold or consent to the holding of such contests by the club.

Awards were made to the successful contestants as follows:

Entered by.		Description.	Kilometer.	Mile.	
CLASS I.—MOTOR BICYCLES.					
C. H. Metz.....	3¼	H. P. Orient.....	43¾	1.10½	Silver Medal
CLASS III.—GASOLENE, under 1,000 pounds.					
L. S. Thompson.....	5	H. P. Renault.....	.59	1.35½	Gold "
Lewis Nixon.....	7	H. P. Long Distance.....	1.03	1.43½	Silver "
H. Ward Leonard.....	8	H. P. Knickerbocker.....	1.05½	1.45	Bronze "
CLASS IV.—GASOLENE, 1,000 to 2,000 pounds.					
Percy Owen.....	15	H. P. Winton.....	.47	1.17¾	Gold "
Ernest Cuenod.....	16	H. P. Rochet-Schneider.....	.56¾	1.22½	Silver "
Jefferson Seligman.....	12	H. P. Mors.....	.57½	1.32½	Bronze "
CLASS V.—GASOLENE, over 2,000 pounds.					
E. E. Britton & A. J. Levy	60	H. P. Mors.....	.34½	.55½	Gold "
Wm. Guggenheim.....	24	H. P. Panhard.....	.44	1.11	Silver "
E. E. Britton.....	16	H. P. Panhard.....	.59¾	1.36½	Bronze "
CLASS VI.—STEAM.					
S. T. Davis, Jr.....	10	H. P. Locomobile.....	.46½	1.12	Gold "
H. H. Wells.....	4½	H. P. Prescott.....	1.0½	1.37½	Silver "



# Odds and Ends of London's Show

A. F. SINCLAIR



IT has been written elsewhere in a former issue of this magazine that the London show was a very great success, and it is regrettable therefore that it is likely to be the last of its kind. That is to say, it is probably the last organized by Charles Cordingley to be held under the auspices of the Automobile Club of Great Britain and Ireland. The trade appears to be unable to make up its mind whether it will patronize one or more shows in London each year, deciding one day to patronize only one, then changing its mind on the morrow in favor of showing at three or four if they are held.

Now this line of conduct has been very distressing to the Club, which is an extremely august body indeed, and feeling itself trifled with, it has determined to impress the trade very severely, and convince it of the error of its ways by withdrawing the light of its countenance from all the shows impartially. All good men will hope that this overwhelming calamity may be averted, that the trade may wake up in time to the dire results which must follow an exact fulfilment of the dread threat, and with a view to avert it may resume allegiance to the "one year one show" policy.

A London automobile show without the A. C. G. B. I. would be like a Punch and Judy show with Toby the dog left out.

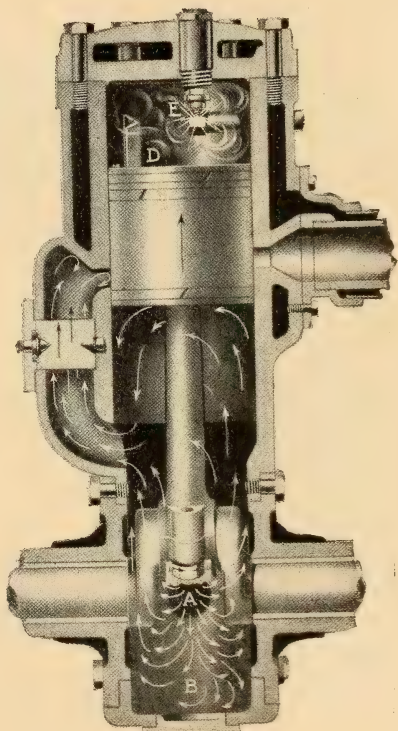
With these few words by way of preface I will refer as briefly as may be consistent with clearness to some of the odds and ends shown.

The two-cycle petrol motor comes but slowly and in the whole show I could find but two specimens of this type, one fitted to a car shown by Ralph Lucas of London, the other the well-known Lozier marine motor from Plattsburg, N. Y. Mr. Lucas obtains an impulse for every revolution of the cranks by using two pistons operating two cranks at the extremities of a single cylinder. The Lozier motor is worthy of more extended notice for there is little doubt that when the cooling difficulty has been overcome the Otto cycle motor's days will be numbered, and the two-cycle type will

take its place, until in the dim future of which Dugald Clark, the well-known motor engineering expert, delights to prophesy, it also will have to make way for the ultimate single cycle internal combustion engine.

In the marine motor the cooling difficulty is of course overcome by pumping the water from under the boat through the cylinder jacket and back to its source. It is perhaps unnecessary to mention that with the two-cycle motor the vaporized petrol must be mixed with the proper proportion of air before being admitted to the cylinder. The Lozier motor is started by gently half turning the fly wheel several times, which has the effect of filling the combustion chamber without compressing it, then a more vigorous three-quarter turn compresses and ignites the charge and the fly wheel begins revolving in the direction of the hands of a clock.

The mixture inlet is in the crank chamber and is closed when the piston begins its downward movement. This downward movement compresses in the crank chamber a charge previously admitted, and when the piston at the extremity of its downward stroke uncovers a by-pass port the charge is forced into the combustion



Lozier Motor

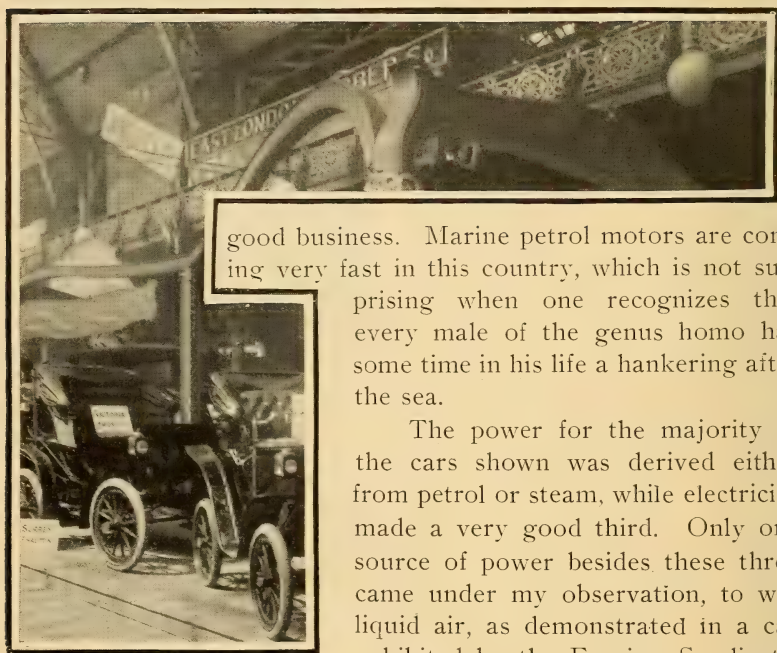
chamber above, and is compressed as the piston again moves upward. I have some difficulty in understanding why in this motor the charge is ignited before the piston quite reaches its highest point. The proceeding is entirely opposed to automobile practice in which ignition takes place after the piston begins its outward movement.

However, ignition having taken place the piston begins its next downward stroke, the combustion chamber meanwhile con-



taining much burnt gas. At a point when the inlet from the by-pass is still covered, and opposite to the latter, but somewhat higher up, the piston uncovers the exhaust port, and the consumed gases escape. The continued descent uncovers the by-pass inlet, and the new charge enters but is prevented from escaping through the exhaust port by a baffle plate fixed on the top of the piston.

The piston again returns performing the double purpose of compression and suction. There was a very fine exhibit of these motors in the show and the British agents claim to have been doing



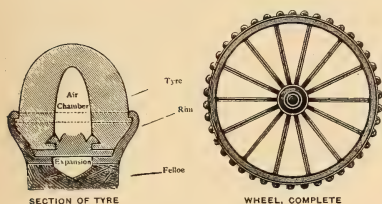
good business. Marine petrol motors are coming very fast in this country, which is not surprising when one recognizes that every male of the genus homo has some time in his life a hankering after the sea.

The power for the majority of the cars shown was derived either from petrol or steam, while electricity made a very good third. Only one source of power besides these three came under my observation, to wit, liquid air, as demonstrated in a car exhibited by the Foreign Syndicate,

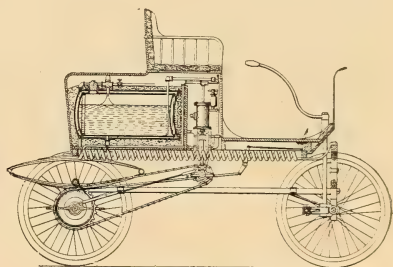
Ltd., of London. Air on being artificially cooled to a temperature of  $312$  degrees below zero (Fahrenheit) is transformed into a liquid, and may be retained in that state for some time if surrounded by a vacuum. In the car referred to the liquid is carried in a flat tank under and somewhat behind the usual driving seat, and has a capacity of seventeen gallons. This quantity is claimed to be sufficient to propel the car about thirty-five miles, and as the liquid costs about four cents a gallon the cost of power per mile works out at about two cents. The tank is surrounded by an almost

perfect vacuum and the natural loss is therefore trifling. When it is desired to bring the expansive power of the liquid into operation a small quantity is allowed to escape into a spiral tube or radiator which runs the whole length of the body under the tank.

A pressure of 200 pounds per square inch can be generated in one minute in this manner, the liquid air of course returning to a gaseous state on entering the atmospherically warmed tube. From the radiator the pressure is admitted into the cylinder of an engine, the action of which is of the single-cycle reversible type. Safety valves are of course fitted to both the tank and the radiator. The power from the crank is carried to the rear wheels by sprockets and a single chain. The only comment which the observer has to make on this motor is, that, if what is claimed for it in the matter of expansion is just, it develops power as rapidly as petrol, and combines with it all the graduation and reversible advantages of the steam engine.



Suspensory Tire



Liquid Air Vehicle

One of the freaks of the show was a crescent fronted air divider, a device like the ram of a ship of war fitted to an American steamer advertised as "The Texas Patent Motor Car." The divider was so constructed that it could be raised or lowered instantly according to the surface of the road. Besides dividing the air and thus facilitating the car's progress, the contrivance contained the radiator, condenser, and separator. This device was so arranged that it could be applied to any type of car. There may be a future for it but its time is not yet.

A new departure likely to make more immediate headway is Sewell's pneumatic suspensory tire. This tire consists of a series of inflated balls so constructed and arranged on the rim that the rebound after contact with the ground is always in the line of motion, there being extremely little side expansion, and as the balls are sufficiently far apart to admit of the rebound taking effect, an ex-

ceeding resilient tire and well balanced wheel result. Each ball is permanently inflated, although a puncture, of course, produces deflation, and can be easily detached, repaired, and inflated. It is claimed for this tire, however, that even although every ball were punctured the car would still be serviceable and comfortable at that.

A vehicle which attracted a good deal of attention was the Oldsmobile, of which glowing accounts had appeared in many of the British automotor papers, its extremely quiet running receiving high praise. There is no doubt that one of the commonest objections to the petrol engine is the noise caused by combustion, and the friction of spur gearing; and, although there is little hope of these sounds being entirely eliminated there



is no doubt  
that much

more could be done to minimize them than is attempted by some makers. The light weight, simple mechanism, and low price of the Oldsmobile are

all in its favor but on the other hand British taste has been educated on French lines, and although the Locomobile and Weston cars have influenced it to some extent in favor of the American form, this preference is confined to steam cars. American firms wishing to compete in the British market would enhance their business chances by adapting the structure of their cars to the French shape. Duryea, notwithstanding his repudiation of imitation, has left the purely American style, and now builds his bodies on European lines, fits his cars with artillery wheels and double tube tires.

An American car which probably secured more attention than any vehicle in the exhibition was a Locomobile which had been through the South African war. This war worn veteran occupied



an honored position on the locomobile stand, and in the condition of public opinion on the war question necessarily attracted notice. Over the car some extracts from a letter written by Captain R. S. Walker of the Royal Engineers recited some of the feats performed by the car and its mechanism. Not only had it been useful as a run-about, fetching and carrying all sorts and conditions of articles, but it was found capable of working the searchlight dynamo, on one occasion was utilized to blow up a number of unexploded mines, and *reductio ad absurdum* was immediately afterward used as a tea kettle.

A number of racing machines were on view, among them the Easter Egg Serpollet illustrated in your June issue, the 60 H. P. Mors, driven by the Hon. C. S. Rolls in the Paris-Berlin race last year, and a Mercedes (Daimler) car, the property of Mr. Alfred Harmsworth.

A machine much written up by the papers was a motor lawn mower, which could also be used as a roller, chaff-cutter, pump motor and for other purposes. The fact that this machine failed to materialize did not prevent the motor car papers giving elaborate descriptions of it.

Another much vaunted device was one having for its purpose the prevention of side slip, which was exhibited by F. Sadler of London.

On the whole, however, the eccentricities were few, sensible utility being the most potent factor in most of the designs.

Glasgow, June 6.

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### Like to Like Ever Goes

"Well, I'll admit there's one satisfaction in being a scorcher."

"What's that?"

"None such will ever be alone in the next world."

"How do you know?"

"Why, isn't Satan a scorcher?"

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### Keeps Her Busy

Time works a strange distraction

In the object of her zeal;

She's forgot to want the ballot

Since she's owned an automobile.

## The Centurion and the Century

**T**HE picture herewith shows that one is never too old to be won by the pleasures of automobiling. The old lady, Mrs. Eva De Voe, was born in Rotterdam, N. Y., June 17, 1802, and the photograph shows her at the end of an afternoon's ride on her tooth birthday. Mrs. De Voe says she prefers the automobile, because she believes it to be a safer carriage than one drawn by



horses. The vehicle in which the old lady is sitting is the latest model of the Century steam runabout, made by the Century Motor Vehicle Co., of Syracuse, and is easily controlled by the aged enthusiast.

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### Horseshoes No Longer Favorites

"Has it occurred to you?" asked a Maiden Lane jeweler, "that the horseshoe as an ornament has gone into decline? A few years ago we always gave our factory in Jersey an order for an unlimited number of various sizes. This year we cut off the order entirely. Those we had left over had been converted into the other patterns. It is even a rare thing for a man to find a horseshoe in the street or in a country road. So much for the horseless vehicle."

# THE AUTOMOBILE MAGAZINE

*A Live Journal for all interested in Motor Vehicles*

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## Time to Volte Face

THE Automobile Club of America and the gentlemen composing it have done much for the automobile and for those who use and those who make the motor vehicle. So much no man will deny the premier club of this country, but, owing to an unhappy condition of public feeling, for which certain prominent members of the Automobile Club of America are by no means entirely blameless, a condition confronts automobilism to-day which calls for prompt and circumspect action on the part of all those who wish the new method of locomotion well. First and foremost among such well-wishers we believe the Automobile Club of America to be and hence this appeal to it.

Heretofore it has been the pleasure of the leaders of and in American automobilism to treat the new method of locomotion purely as a sporting affair. They have intentionally, or otherwise, sought to transplant foreign ideas, ideals, men and methods in America with no regard to the differences existing between conditions here and those from whence the foreign products



were imported. The attempt has failed; there was never any doubt that it would fail, and more than that, from the very beginning it deserved to fail.

The perfectly natural result has followed. The American public, quick to resent any disregard of its rights or its privileges, has asserted itself, and the consequence is that the time is now here when a complete about face must be made by those at the head of American automobiling, and it must be made quickly and completely.

Before all things, the Americans are practical. The automobile, like any and all things, must survive or fail in this country, not upon the reputation it has elsewhere, but upon the one which it acquires here. Regarded purely as a sporting attribute, the motor vehicle has, in this country, a future so limited and so stormy, that its present is worthy of no one's serious time or effort. Considered as a commercial possibility, as a positive cure for the congested traffic of our crowded streets, as a partial successor to the hard working horse, filth producing, disease breeding animal that he is, the future of the mechanically propelled vehicle is so vast and so certain that no man may even imagine its limitations, much less predict, them.

To the Automobile Club of America and to the wealth of its members, is America indebted for the finest specimens of the most perfectly made automobiles in all the world. These magnificent examples of mechanism have offered the American manufacturer a practical example of what others have done to perfect the automobile, and have shown him what he must at least equal, if not surpass, if he expects to occupy any other than an inferior position in the production of the new type of conveyance.

To the end that the public might be convinced that the new method of locomotion was deserving of the enthusiastic encomiums of its admirers, the past efforts of the Automobile Club of America, in the direction of speed production and endurance demonstration by these foreign vehicles, must be admitted as wise and timely measures. The public now knows all that any such demonstration can teach, and under the guidance of cheap political demagogues, it imagines it knows more about the automobile than any thing or any one could teach.

The pendulum of events is verging upon the extreme point of its swing against the automobile, and it is this which should cause a halt in the old methods and the introduction of new ones.

This is no time to ask for new legal or legislative concessions for the automobile; it is no time to defy the public or to parade the wealth of the owners of automobiles. If there ever was such a time it is past. To-day brings the automobile face to face with a condition which is as grave and as threatening as it well can be. It is this condition which the Automobile Club of America must recognize, and, if possible, overcome.

For the present the less the automobile appears as a parader, a racer, or a disregarder of public opinion or rights, the better for all concerned. In announcing that it will no longer encourage racing in any form, the Automobile Club of America has set an example which all other automobile clubs should be quick to follow. Proceeding along this same line of deference to public feeling, if the automobile club will eliminate from its membership the comparatively few owners of high-powered vehicles to whose thoughtlessness and disregard for other users of the highway is almost entirely due the present antagonism of press and public, the club will have advanced still closer to the day when the automobile will be regarded as a benefit, not as a menace to the public welfare. Let the entire energy of the organization be henceforth devoted to winning public confidence for the new vehicle. Instead of holding up the automobile as a thing which only rich men can buy and reckless ones use, let the club proceed to demonstrate the practical, the commercial, the money-saving side of motor vehicleism. Let public demonstrations and contests to this end be promoted by the club, and the result will be an immediate change in the status of the automobile and in its treatment by the press, the pulpit and the public.

With no desire to cry "wolf" when no danger is nigh, but with a due appreciation of those dangers which certainly do threaten automobiling in America to-day, we feel it our duty to call upon the Automobile Club of America to prove itself worthy of its proud position, and lead those who are prepared to follow it back to the safer paths of action from which it has been American automobilism's misfortune to have temporarily departed. The time and the necessity for action is here. Will the Automobile Club of America recognize them, or must some one else be found who will do so.

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The more a horseman gets of the road the more he talks about his rights.

## A Word to Correspondents

It is intended that communications from subscribers on the practical and timely subjects shall form a regular and valuable feature of the *AUTOMOBILE MAGAZINE*. One or more letters appear in each issue under the general head of "Correspondence," and serve the important purpose of arousing discussion and stimulating original thought. Never have such departments in the technical press been more beneficially used than now, and it is safe to say that whoever has something new and vital to impart will find room provided for him in advance. Sport, trade and touring subjects are alike within this scope.

That any communication goes unpublished is not necessarily an indication of its unworthiness. Whatever is addressed to any well-ordered office is carefully read and considered, but there are many reasons why an editor may not deem it expedient to print that which is in itself interesting and well written. One of these reasons may prevail: (1) the subjects may have been fully and recently discussed; (2) the communication may be overlong for departmental use and yet not permit of condensation; (3) the spirit in which the matter is treated may not be in line with the policy of the magazine, or (4) the topic not properly within its field. Articles already in hand at times preclude the acceptance of others of like nature. Communications embodying only speculative discussions will usually be declined, as will others weighted down with facts and material already familiar to regular readers. Articles which aim to advertise the writer and his own business affairs are either rejected or else pruned of these features. There are other reasons, but these are chief.

Now as to the manner of writing for publication: there are many communications which are difficult for editors, artists, and printers to handle, because written on both sides of the paper. Not long ago a good article came to this office with a sketch drawn on the opposite side of the paper from the letter. Sometimes it is worth while to work a contribution up regardless of these inconveniences, but generally it is not. Communications should therefore be written on one side only, and if a good margin can be left, the better it will be. Names of persons and places should be written or typewritten with more care than ordinary words, since the context may not be typographically correct throughout. Remarks, explanatory and otherwise, not intended for publication,



should be placed on a slip by themselves. If it is desired to have unaccepted communications returned, that fact should be stated, and a stamped, addressed envelope enclosed for that purpose.

Anonymous communications are never acceptable. If correspondents, for any reason, do not care to have their names appear in print, a note to that effect should be stated over one's true signature. At the same time, the name or initials one wishes used instead, should be supplied. Finally, inquirers will often find the special information sought after in the current advertising pages of the AUTOMOBILE MAGAZINE. Likewise, the most popular tours will soon be available through our back numbers, as the touring series now running is continuous since May. It is respectfully suggested, therefore, that the close relation existing between correspondence and advertising—especially the want columns—should be noted by the reader. Meanwhile each issue will contain a cumulative index of routes so far published.

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## Remedial Value of "Boards"

**W**E live in an age of legal guardianship. A man may no longer pare a corn, shoe a horse, trim a beard, or perform any other of a thousand and one of the minor things of life without first appearing before a board composed of political sinecurists, and by them being duly licensed and mulcted of his money.

Aside from the sinecures these boards afford their members, and the opportunity for political control of the trades or professions they are supposed to guard, we do not know that anyone, save the sinecurists, are benefited thereby.

It is now proposed that no man be allowed to run an automobile unless he has appeared before one of these boards, and had his ability as an automobilist passed upon. At the moment, when a large number of people have a severe attack of a midsummer madness, which it were mild to term motorphobia, we can readily see how the clever politician, ever on the alert for a comfortable berth for himself or his constituents, should quickly turn the public's clamor in the direction of the board cure, but we cannot so easily see how anyone, save the politician and his constituents, is to be benefited.

Granting that a board be ever so competent and incorruptible, and this granting a very great deal in the light of past experiences

with boards of examiners, how is that board, sitting in a comfortable room, going to intelligently decide upon a man's capability to control a motor vehicle properly and promptly? All that such a board could possibly do would be to ask the applicant a few stock questions about the construction, motive power, braking, steering, etc., of an automobile. But a man might know all of these and still be utterly incompetent through indecision, carelessness, or recklessness of safely taking any form of vehicle through traffic.

Suppose the board sends a man, another political gentleman several degrees lower in the political scale than a "board" member, to ride with the applicant in a motor vehicle and to report upon the applicant's qualifications as an automobilist, according to the skill shown in actual practice, what then? If the servant of the board is honest, is it likely that such a man would have the knowledge or the ability to intelligently pass upon so complex a question? In the view of past experiences is it not a fair assumption that this gentleman could not see any further through a green-back or a pull than others of his class or kind?

Laying aside all these and all other manifest defects in the board system of scorcher regeneration, and bringing the entire matter down to one of what is known as practical politics, i. e. the supremacy of pull and pelf, would not the political heeler or the friend thereof be sure of a license without any further regard for his ability than the fact that he was one "of the boys," and would not the self-consciousness of the power of his backing tend to make him utterly regardless of acquiring the necessary knowledge of the vehicle, or the exhibiting of a proper regard for the safety of the ordinary unlicensed citizen?

Would the alleged millionaire automobilist, against whom all of this foolish tirade has been chiefly aimed, find it any more difficult to purchase his license than he does his immunity from punishment, which his accusers say he buys with greatest possible ease and utter disregard of cost? We believe no one with any respect for truth and a knowledge of conditions governing the local politics of this country, can truthfully say that there is any hope of any permanent or even temporary benefit to either the public or the automobilists resulting from any board of examiners.

Had we not perfect confidence in the ultimate triumph of American common sense, we should almost be tempted to believe that the ownership of an automobile and the possession of a permit to be lynched, were closely akin. For the moment the auto-

maniacs, their supporters and their inciters are in the lead, but their prominence is only temporary. The coming of sober second thought will mark the immediate disappearance of these misrepresentatives of public opinion. Justice will then be meted out to the automobilist in accordance to his deserts, and not according to a hysterical clamor on the part of those who may dislike him and we hope the board cure will be allowed to remain untried until then.

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## Complaint and Cure

**H**UMAN nature being a pretty constant quantity, there will be reckless automobilists, just as there are reckless horsemen, and men and women everywhere whose regard for the rights of others extends not much further than the fear of penalty for violation.

On the other hand, the people who do not believe in the automobile, and there are still a few of them left, are apt to be unreasonably impatient with this new vehicle, which occasionally in the hands of the thoughtless, takes away their breath at corners and crossings, and, while assuming the right to travel with a velocity far above that of the ordinary conveyance, demands at the same time, freedom from the rules to which it must submit for the safety of other users of the highway.

We will have considerable conflict on both sides before the rules that govern the world of the motor will be settled and harmoniously accepted by both parties.

The scorcher is voted by common consent the worst kind of nuisance, and no one believes it more devoutly than those who use the automobile for moderate riding and recreation.

In order to secure the peaceful enjoyment of all parties, it will be necessary to have everywhere strict rules as to rate of speed, giving of alarms and the carrying of lanterns, adopted and enforced. A very little police supervision, and more particularly a larger attention to the prompt punishment of scorchers by automobile clubs and associations, will presently reduce motor travel to the comfortable condition of other forms of street locomotion, in which the rights of all are conserved, and accidents are the result of misfortune, not recklessness.

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Taking the strict definition of "endurance," to mean the capacity to bear hardship or stress of any kind without succumbing,



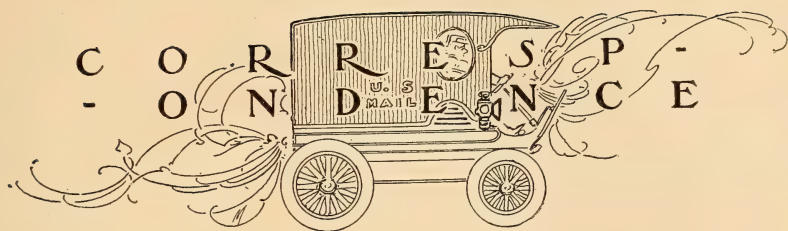
we would suggest that the passage of an automobile over a hundred miles of selected roads, in seven hours or more of time, can hardly be declared a test of endurance. If those responsible for dignifying such affairs as tests of the automobile's endurance capacity were to stop and think a moment, perhaps they would see the inappropriateness of doing so. If the automobile can not, at this stage of its career, traverse a hundred miles of good roads without breaking down or receiving a ribbon for doing so, then it had better be wrapped up in cotton batting and laid away, since it is too delicate to hope of ever winning its way in the world of traffic. There is no longer any doubt of the ability of a well-built automobile doing all that can be asked of it to do under service conditions, and to dignify such a thing as a hundred mile run a "test" is to hold the vehicle, its users and its makers up to public ridicule.

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The famous battery of Mr. Edison, which is to make of the electrically propelled vehicle, a thing of joy, delight, cheapness, and unequalled efficiency, has again been declared as "almost ready" for delivery to a long-expectant and more than patient public. It would afford us considerable satisfaction if we could announce that it was fulfillment of past promises, not to the making of new ones in the same direction as of yore, that Mr. Edison's friends of the press are once again so actively engaged in. "Hope deferred maketh the heart sick," and if the believers in Mr. Edison's repeated promises are not sick, or even dead, the fact of their not being so is due, more to the strength of the hoppers' hearts, rather than to any realization of the many promises those who claim to speak for Mr. Edison have repeatedly made for the Wizard of Menlo Park.

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Automobile touring is something that has developed wonderfully in the last year or two. Formerly the motor vehicle was a medium of pleasure within a few miles of home only, but now it is taken by vacation spenders and leisurely persons to all parts of the world. What has been accomplished in the way of road improvement during the last decade is little appreciated until one reflects upon the many places where there is good automobiling, while a year or two ago the same roadway was barely passable for any stout horse that had a wagon hitched to his harness. The influence of the good roads agitation has been more far-reaching than is imagined.



### Wants to Hire a Fine Vehicle

**I** WANT once more to trespass upon your kindness in acting as a mentor for the automobilist who does not think he knows it all. I am desirous of hiring an automobile for the summer or for the next few months. I should require a first-class vehicle, one capable of traveling at least twenty miles per hour and seating not less than three besides the chauffeur. The vehicle will be used over a section of the country where good roads are the rule and exceptions in shape of inferior ones are rare. With the vehicle I am willing to hire the owner's man to run it, provided the man be an honest, efficient and sober one. If any of your readers have a vehicle, such as I have described above, which they do not care to use during the next few months, and will communicate with me in care of the *AUTOMOBILE MAGAZINE*, perhaps a mutually satisfactory arrangement for its rental may be made.

MONMOUTH BEACH.

The gentleman who has written the above is well known and would undoubtedly purchase an automobile for his own use did the very liberal offer he makes for the temporary use of one succeed in securing him a vehicle which proved satisfactory. In any event the opportunity is here presented for some one to place a first-class vehicle, where it will not, in the parlance of the stable, "eat its head off" during the time its owner might not have any personal need for it. The gentleman's name and address can be had at this office, or any letters addressed as above will be promptly forwarded to him.—Ed.

### Has Enough of Leather

Has any costume been invented to take the place of the leather coat and cap for automobilists? I find such clothing very uncomfortable on hot days. The ideal costume it would seem to me

would be one that provides for ventilation, rests lightly on the person, while being at the same time dust and water proof. I should be glad to hear if such clothing is for sale, and where.

San Francisco, Cal.

G. A. DU BOIS.

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### Incompetence of the Owner

**I** HAVE noticed in the newspapers recently, a lot of stuff about licensing chauffeurs, which means, as I take it, we brothers of the wheel who make a living in the service of automobile owners, who are not always able to control or care for their vehicles. More than half the accidents which happen are brought about through the attempts of our employers to show off, and we are blamed for them. Would it not be well to first compel the owners to take out licenses? For my part I am ready to submit to an examination for a license, but don't see why we professional chauffeurs should be blamed for things which our employers do. I should like to see the opinions of my brother professionals on the matter expressed in the *AUTOMOBILE MAGAZINE*.

New York.

PANHARDER.

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While matters may be as our correspondent states yet the records for fatal accidents for which automobiles have been responsible in New York city do not bear out the claims above made. Of a total of 16 deaths caused by automobiles here 13 were by vehicles driven at the time of the accident by professionals, while only 3 fatal accidents resulted from vehicles controlled by amateurs. These figures not only disprove the statement made by our correspondent, but they also absolutely controvert the repeated allegation of the sensational press about the murderous millionaire who with an automobile, runs down innocent people for his amusement. The facts are that of the three automobile owners who while in control of a motor vehicle have unfortunately fatally injured some one, only one can be called a millionaire. The remaining two are a doctor and a woman, neither of whom is entitled to any allegation of being a millionaire, either by expectancy or otherwise.—Ed.

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### Pounds and Dollars

Where can I buy a good second-hand gasoline vehicle, weighing 600 to 1,000 pounds, with a not less than 6 h. p. engine, the price not to be over \$500?

Newark, N. J.

CHARLES A. STILGER.

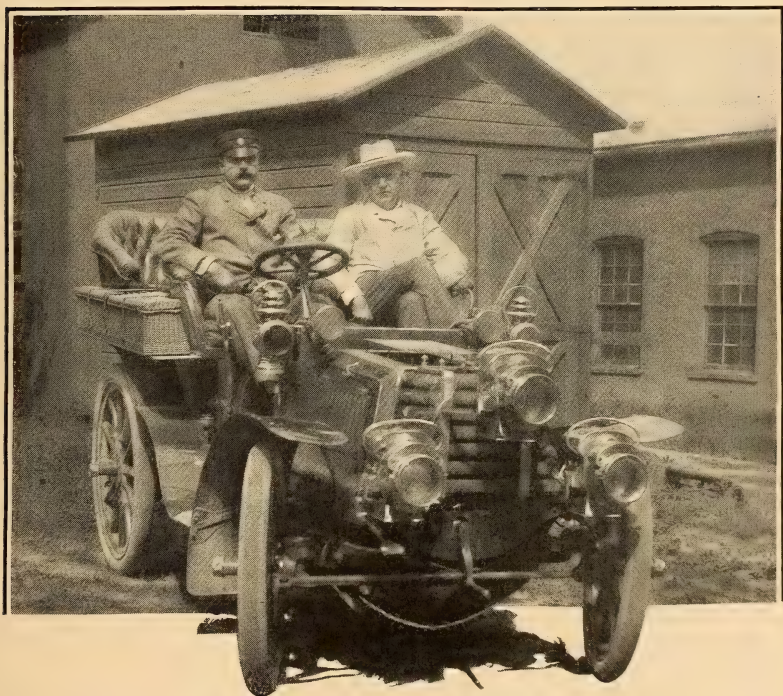
We don't know.—Editor.



## What Edison Says

W. J. MORGAN

**L**AST August the writer had an interview with Thomas A. Edison in regard to the much talked of Edison battery, and at the time was informed by one of Mr. Edison's assistants that the battery would be ready in October. October has come and gone several months ago, and we are now promised the Edison battery in the sweet by-and-by, that is as soon as the present tests are completed.



A few days ago, as a representative of the AUTOMOBILE MAGAZINE I again called at West Orange to have a talk with the sage of Llewellyn Park, or "the Wizard" as he is popularly called. I had the good fortune of catching the Wizard in an automobile act, as the photograph herewith shows. It was automobile day with Mr. Edison, as he was picturing Fournier's big powered Mors, as well as Mr. Britton's Panhard for pictures which will be shown shortly in the Edison moving picture machine.

Mr. Edison asked the writer for some *AUTOMOBILE MAGAZINE* speed cards, and looking up the figures, which compute that when an auto goes a mile in 30 seconds it is going 120 miles an hour, he was asked if we will ever accomplish that speed; he immediately answered: "Yes, I believe we will. I think it is only a matter of wheel-base and power." Mr. Edison is of the opinion that a liberal wheel-base is essential to speed. In reply to a question as to the progress of his battery toward a commercial possibility, Mr. Edison said that he was doing all that could be done to hasten its production, and the present tests, he hoped, would show him that it was now right and ready for the market.

Mr. Mallory, who is Mr. Edison's manager, told the *AUTOMOBILE MAGAZINE* that much that has been written in the papers about the Edison battery was without authority or foundation, which had made Mr. Edison chary of talking to reporters. Mr. Mallory stated that the two Edison battery factories at Glen Ridge and Silver Lake, N. J., were hard at work making battery parts and chemicals.

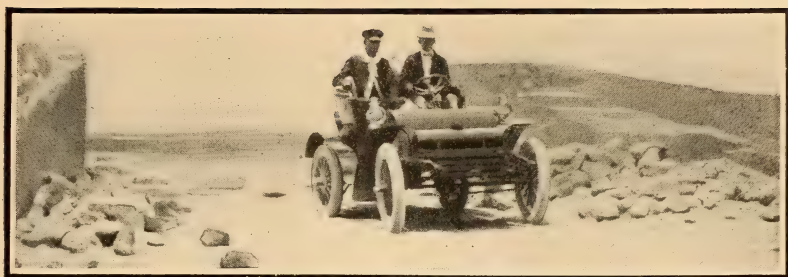
There is no doubt whatever that the frequent Edison announcements have materially damaged the electric vehicle business, and the writer thinks it well to call attention to the more or less incomplete statements about the Edison battery and the lack of definite promise for the future by the Edison people. So it seems that it is unwise to put off purchasing an electric carriage, if the sole reason for putting it off is the prospective Edison battery promises. If Mr. Edison places a battery on the market it is to be hoped it will be all right and it goes without saying that the reading public has a large amount of blind faith in whatever Mr. Edison says or is purported to have said. As an instance of this blind faith Mr. Mallory told me that after the Associated Press announcements about the battery, fully \$30,000 was sent to Mr. Edison through the mails as advance payments on the to-be battery.

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### Rouse, Ye Slaves!

"We are glad to welcome you to our ranks," said the Socialist. "By the way, how did you, a man rich enough to pay thousands of dollars for a luxury like an automobile, come to join anti-monopolists like we are? You felt the iron heel of oligarchy, I suppose?"

"Yes, indeed I did," replied the new member, "I had a little business with a tire repairer last week."



## First In Durango

**R**OADS are not of the best in Mexico. What transportation possibilities there lack in ease, however, they more than make up in novelty. Among the few residents of Mexico who are not inclined to believe that the burro and his half brother the mule, are the highest possible types of transport, is Andrew Evans, who has large mining interests near the city of Durango.



When he had made up his mind that for an American the native transport service was just a trifle slow, Mr. Evans looked around for a substitute for the burro and the mule, and finally decided that an automobile was just about what was wanted. After the usual amount of investigation, Mr. Evans finally selected the vehicle here shown, and so far has had no occasion to regret pinning his faith to the Gasmobile, which was his choice.



When one takes a look at the roads seen in the pictures and then learns that Mr. Evans has negotiated a hundred miles of them in four hours, it is not easy to decide which is the most wonderful, the ability of the driver or that of the vehicle.

Speaking of his first appearance in the city of Durango, where nothing in the shape of a motor vehicle had ever been seen, Mr. Evans writes:

"You ought to have seen the excitement. The crowd was so great and so bent on seeing the vehicle that I could not reach my hotel by the direct route, but was forced to take a roundabout course and rid myself of my admirers by literally running them off their feet. Thousands of people followed me as long as they could, all shouting and waving their hats and mantillas. For a little while I certainly was the biggest man in Durango."

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### When the Doubter Awakes

"It's naught but a fad," says the sceptic,  
"And will soon disappear from our sight."  
But he don't stop to think of the changes  
Time may make in its power and its might.  
The automobile is too good a thing  
To be affected by wind or by rain;  
And the sceptic will wake up some morning  
To find he's been dreaming again."

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### A Counter Proposition

"Young man," said the parson, when on a recent Sunday he came across a scorcher who had stopped to replenish his own and his vehicle's tank, "do you know you are rapidly traveling the road that leads to destruction."

"Well, then," replied the tanker, glancing admiringly at his conveyance now ready for him to mount and away, "why don't you pitch in and help to give us good roads."

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### His Grievance was Great

"Durn these here automobiles!" said the man with the sun-burned suit, round shoulders and long beard. "I guess I've gone a-runnin' up to no less'n a dozen crowds, 'spectin' to see a fight, and only found some fellows doctorin' them motors or turnin' a crank to make her go."

## The Man and the Machine

**T**O be an Olds and to be the oldest oldster in the building of gasolene engines in this country is an honor to be proud of. Such is the good fortune of Ransom E. Olds, vice-president and general manager of the Olds Motor Works, and the patentee of the now famous Oldsmobile, a vehicle which has had the compliment said it of being more widely imitated than any other American automobile. As far back as 1896, Mr. Olds took out his first patent on a motor vehicle, though almost ten years before, to be exact, in 1887, he had built a three wheeled, steam driven carriage which caused no end of talk among those who came from far and near to see it. In 1892 Mr. Olds built another steam vehicle incorporating therein a number of improvements he had found necessary through his experience with his 1887 model.

Though the firm of Olds & Son were turning out gasolene engines in 1885, and Mr. Olds was building automobiles in 1887, it was not until the company was reorganized in 1899, that building of the present type of gasolene automobiles was seriously undertaken. The new organization was known as the Olds Motor Works and began with the election of the present officers: Mr. S. L. Smith, president; Mr. R. E. Olds, vice-president and general manager; and Mr. F. L. Smith, secretary and treasurer. The reorganization provided what seemed to be ample facilities for taking care of the business, but the enormous demand and unprecedented popularity of the Oldsmobile soon necessitated a third plant at Lansing, Mich., some idea of the size of which may be gained from the fact that the main building is 600 x 110 feet. The plant is surrounded by 56 acres of land, a portion of which is laid out as a park with a half mile race course, all belonging to the Olds Motor Works. The total floor space now operated in the Olds factories is over 6½ acres, making them, according to their owners, the largest concern of the kind in the world. Nothing succeeds like success and the popularity of the Oldsmobile is an unusually fine example of the truth of this.

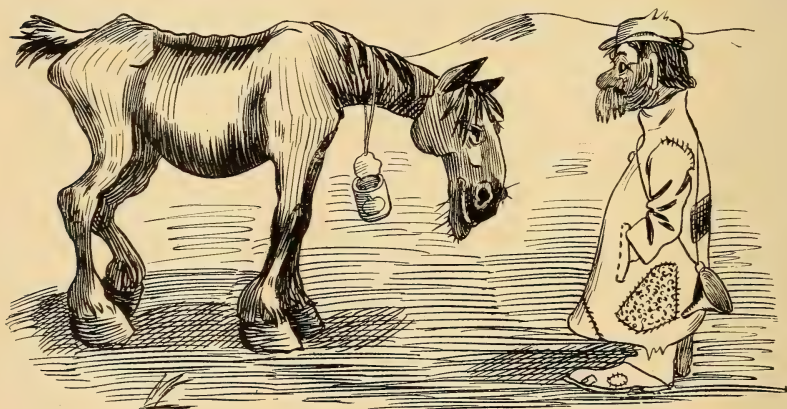
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## An Artistic Little Book

As a rule, trade literature smacks too much of the shop to appeal to the ordinary reader. An excellent example of all avoidance of this is shown in the new catalogue of the Winton Motor Carriage Co. Between the artistic covers of this little book from Cleveland is told the story of the Winton car in a way which is both entertaining and instructive. The compilers, and their assistants, the artist and the printer, are to be congratulated upon the success they have achieved in breaking away from the usual cut and dried, dry-as-dust announcement of a motor vehicle.

## Worthy of its Name and Makers

**T**HE Rambler Automobile bids fair to be as well known as the bicycle of that name, which was made by the man who now makes the Rambler Automobile at Kenosha, Wis. Thomas B. Jeffery and his two sons, Charles and Harold, are the men behind the motor that goes into the Rambler construction, and a right good motor it is, too. Recently an AUTOMOBILE MAGAZINE man was given a whirl through Central Park, and just to show that the Rambler was as good as its name, the demonstrator, Gaston Plattiff (who represents H. C. Squires & Sons, New York Agents), made numerous climbs and dives among the Mount Pelee-like streets of upper Manhattan. The Rambler did nobly, and its six



Couple of Float Feed Failures

H. P. single cylinder motor behaved in a most satisfactory fashion. The Rambler is faster than the makers claim it to be.

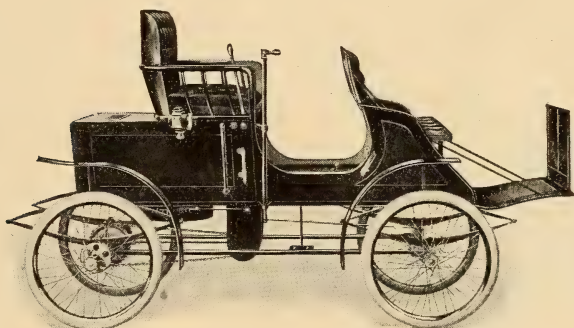
## This Sparking Plug Sparks

One of the most tantalizing things that many automobilists have had to contend with in the past has been the bad sparking plug. Arthur R. Mosler, a relative of the safe man of that name, has produced a safe plug and stepped into the breach. Mr. Mosler has made good his promise to bring out a satisfactory plug, which he has named the Spit-Fire Plug and it is finding a large sale among automobile, marine and stationary engine owners. The plug uses the jump spark ignition, and is constructed in a different manner from most of the plugs on the market. It can be fitted to any automobile, provided the size and thread are given. No cement is used in the construction of the Spit-Fire Plug and the sparking points are thoroughly protected. The center sparking point is made of a nickel steel alloy which will not oxidize.



## Why Prescotts Prosper

**W**HEN Frank W. Weston, who is the Metropolitan selling agent for the Fisk tires, and sole distributor of Barwest Coaster Brakes, concluded to make automobiles, he very happily chose the pretty little town of Passaic, N. J., and persuaded the well known enameline manufacturer, A. L. Prescott, the Passaic capitalist, to finance the enterprise. Recently Mr. Weston gave an AUTOMOBILE MAGAZINE man an invitation to see what the Prescott steamer could do between Newark and Passaic. The start was made from the New Jersey Automobile headquarters at Newark. At Belleville, seven and a half miles from Passaic, a watch was put on the time, and when the little steamer drew up at the factory in Passaic, only 15 minutes had elapsed, which, considering the fact that no record-breaking was attempted, is very good time.

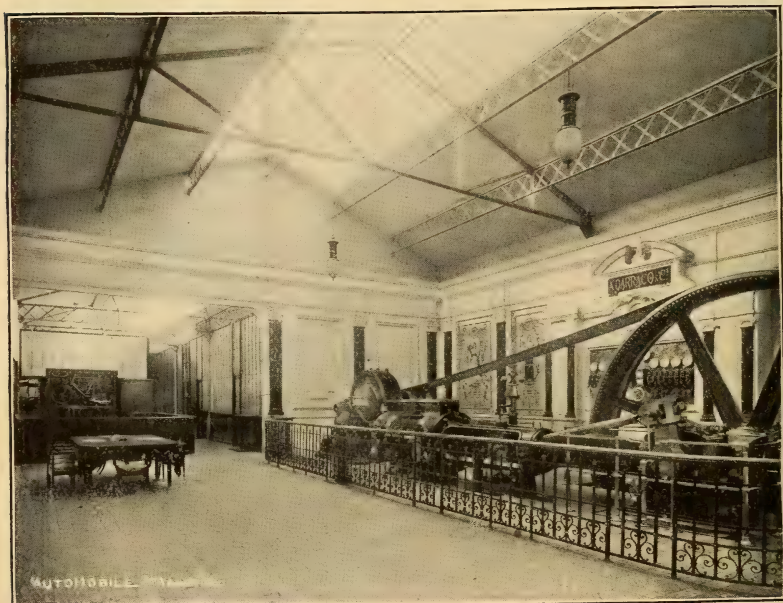


Prescott with Convertible Seat

Harry M. Wells, superintendent and vice-president of the Prescott Automobile Manufacturing Co., assisted his brother W. H. in explaining things about the factory plant, which is an unusually fine one and well equipped for turning out Prescott vehicles in a fashion which warrants they will stay sold. Mr. Prescott said that it was his intention to make the Prescott vehicle as well known as he had made the enameline that he manufactures, which preparation, by the bye, his daughter, who recently returned from a tour around the world, had seen in Europe, Asia and Africa, while enameline signs were plentiful in Pretoria, Melbourne, St. Petersburg, Vienna, Paris and London. It is the wish of the Prescott Company that their vehicles become known as being extra well made, rather than for their low price, hence the utmost care is taken in their construction and designing.

## Where Diplomacy Is Needed

**T**HE victories of the Darracq vehicles on the Continent and in America have resulted in a regular rush of buyers. F. A. La Roche, who is the sole sales manager for the American Darracq Automobile Co., at 652 Hudson street, New York city, is in consequence fast developing into a real diplomat, something of this kind being absolutely necessary to prevent those who think that an



The Parlor-Like Engine Room at the Darracq Plant

automobile can be built in a moment and delivered in an hour from being unduly disappointed when their thoughts and the facts do not agree.

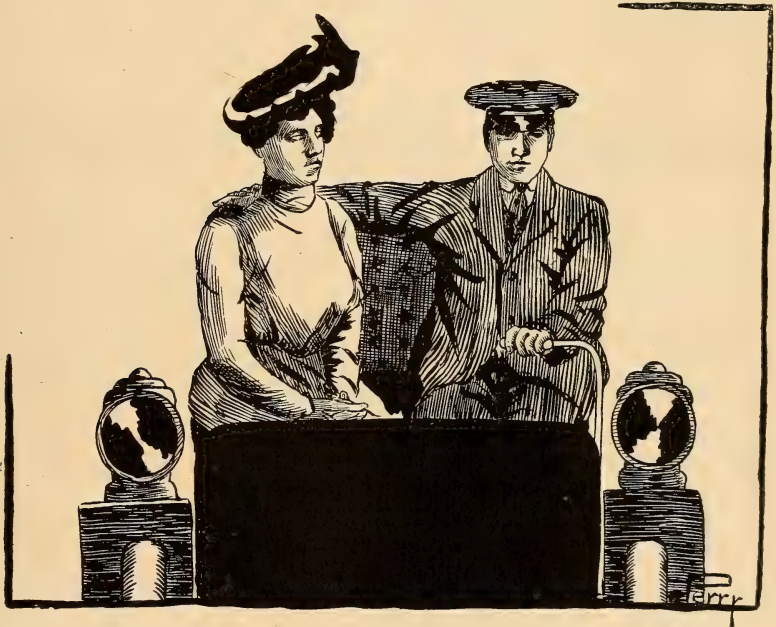
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## The Spark That Tells

When Dr. Lehwiss planned his famous trip around the world in an automobile he knew that nothing but the best of everything would enable him to accomplish it. So he went to France for the vehicle, and Panhard produced the famous *Passe-partout*; to England for the banknotes to pay for it all and to America for the Motsinger Device Mfg. Co.'s auto sparker, without which neither the genius of the Frenchman or the gold of the Englishman could make the famous *Passe-partout* proceed on her way.

## An Electrical Newcomer

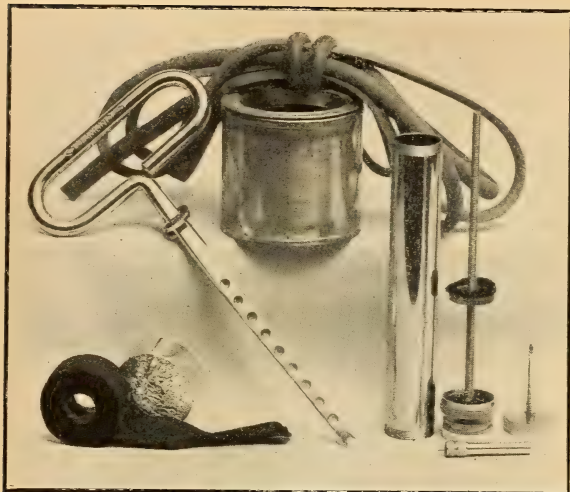
**A**MONG the latest comers in the field of the electric vehicle are the Centaur Motor Vehicle Company of Buffalo, who have produced a carriage which shows that it has been designed by experts and built by competent workmen. The new carriage is equipped with four forward speeds and one reverse, ranging from four to fifteen miles per hour, with stock batteries sufficient to develop sixty miles, on pavements, from one charge. In the general appointments of the carriages, the makers say they will furnish nothing but the



Evidences of Defective Sparking.

very highest quality in point of materials and workmanship. The equipment will include all the modern appurtenances, such as ammeters, convenient electric bulbs to furnish light to all parts of the vehicle, charging plugs and cable, hoods, etc. Withal, while it would be but natural for the makers to claim superiority, it does seem as though the Centaur electric has all the known practical advantage of other similar types of vehicles and some which others have not. For example the purchaser can choose any battery which he may think is the best, the makers being only anxious to please him, not themselves.





1. THE OUTFIT COMPLETE.



3. INSERTING RUBBER IN PUNCTURE.

# Diamond Repair Outfit

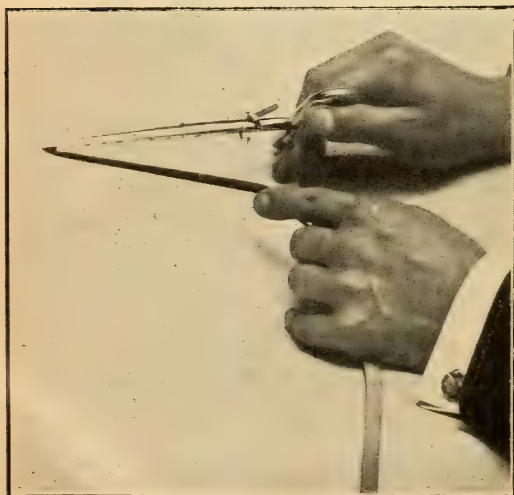
## SOUND ADVICE:

IN PRICE IT'S LOW IN SIMPLICITY IT'S A MARVEL IN RESULTS IT'S POSITIVE

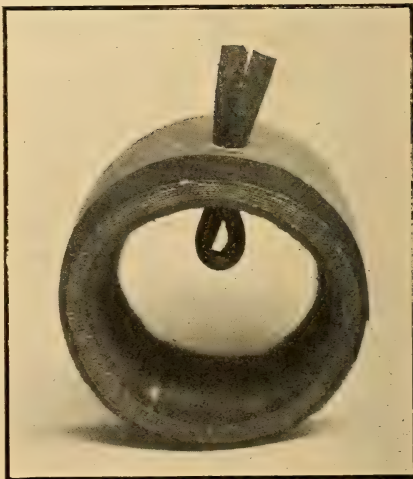
What has there been wanting during the past three years to make **single tube Automobile Tires** more satisfactory? We will tell you. A **repair outfit** which would **successfully close a puncture** in a few minutes and make a **permanent repair**. The owners of machines object to removing tires and sending them away to be vulcanized for the reason that they lose the use of the machine, and it is an expensive method of repairing. We have a **device** that anyone can use **successfully** and it should surely **stimulate** the use of single tube Automobile Tires. We shall be glad to furnish a **complete outfit** for \$2.00 and ship it to you on trial **to be returned if unsatisfactory**.

## The Diamond Rubber Company, Akron, Ohio

BRANCHES—NEW YORK, 1717 Broadway. PHILADELPHIA, 435 North Broad. NEW YORK, 15 Warren St.  
CHICAGO, 431 Wabash Ave. BOSTON, 234 Congress St. SAN FRANCISCO, 8 Beale St. BUFFALO, 41 Court St. DENVER, 1562 Broadway. DETROIT, 310 Woodward Ave.



2. ATTACHING RUBBER TO INSERTING TOOL.



4. TRIM RUBBER AND JOB IS FINISHED.

In answering advertisements please mention THE AUTOMOBILE MAGAZINE.

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## Carriages to Be Proud of

The Automobile Co., of America, Marion, N. J., are justly proud of a new 25 H. P. wagonette they have just completed for a gentleman in Utica, N. Y. One of the features of which is an extra phaeton body, permitting the carriage to seat six, or even eight people on a squeeze. The price, \$5,000, seems reasonable enough when compared with the prices asked for other vehicles, either of American or foreign make. The A. of A. company have also recently shipped a particularly stylish vehicle to B. M. Shanley, the well-known Newark, N. J. contractor. Things are looking up at the Automobile Co. of America factory these days, and the Manager, E. C. Kryder, intimates that an announcement will shortly be made which will prove of considerable interest, both to the trade and to the public.

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## What Diamonds Do

One of the surprises of the tire world in the last year or so has been the wonderful phoenix-like rise of the Diamond Rubber Co., of Akron, Ohio. Ever since Walter B. Hardy, the former manager of the Revere Rubber Co., of Boston, took charge of the Diamond plant and made William B. Miller, who was the Buffalo Revere branch secretary, the name "Diamond" as applied to tires, whether bicycle, carriage or automobile, as well as belting, hose and packing has been a standard of excellence. The instantaneous business-like decision of the company's officers was fittingly illustrated when the New York branch went up in smoke, and inside of three days its successor was in full swing doing business just as though burning up was an every day affair. The Diamond Rubber Co. has a good share of the automobile business and deserves it.

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## Like a Cannon Shot

It is not often that a college student has the time, the talent and the inclination to build an automobile, when however, one does combine all these then the result is worth attention. During his hours of leisure at Harvard, George Cannon, a student has constructed a steam carriage upon original lines. Just to show that he knew what he was about Mr. Cannon took his carriage to Charles River track and knocked the five mile record for steam vehicles into a cocked hat, reeling off the five in 8.26 $\frac{3}{4}$ . Mr. Cannon is modest over his success and attributes no small credit therefor to the excellent qualities of the Mason engine which he uses.

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## Asked and Answered

"How much are sparking plugs?"

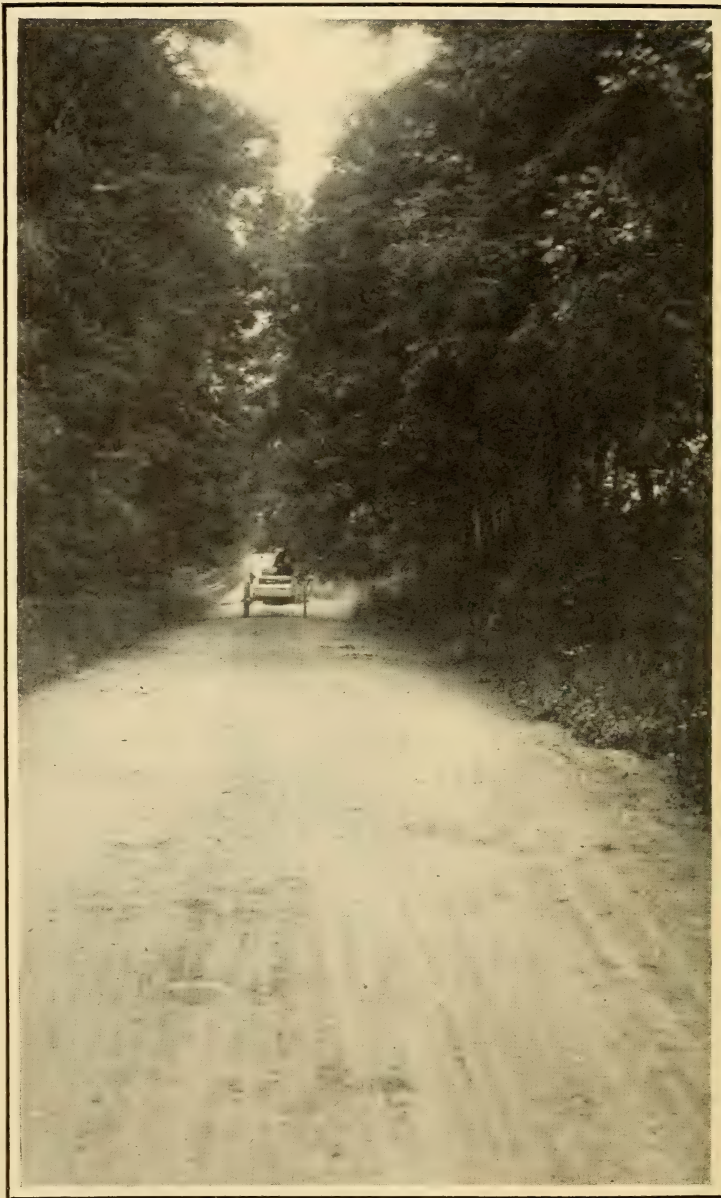
"A dollar and a half."

"What do you charge a dollar and a half for?"

"Sparking plugs."







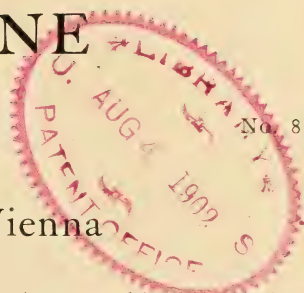
*Along Shady Lanes*

*H. Horick*

# THE AUTOMOBILE MAGAZINE

VOL. IV

AUGUST, 1902



## From Paris to Vienna



ONE scarcely knows which to admire the most, the ingenuity of man in his ability to construct a vehicle capable of sustaining the terrific strains of such a journey as the Paris to Vienna race, or the indomitable determination, skill and grit necessary to pilot this wonderful mass of machinery to a triumphant finish. Both are brilliant examples of what men can do under the stimulus of commercial and sporting emulation.

For miles and miles in this great contest men raced automobiles at a speed which few if any Continental railroad trains are run at over roads which were far from being of the sandpapered

variety which confiding Americans are wont to believe are universal abroad. In passing through portions of the Austrian Alps the course of the race was along a road, some six thousand feet above the sea level,

which was literally hung on the brinks of precipices. Ruts, loose stones and freshly fallen snow all combined to make the passage of such a course at racing speed something which few who successfully accomplished it will ever care to again undertake.



As usual the management of the great race left nothing to be desired, the Automobile Club of France being too experienced and too energetic an organization to permit of anything conducted under its auspices being otherwise than perfect. The race was virtually two events in one, the Gordon Bennett Cup and the Paris-Vienna contest. The first named ended at Innsbruck, 360 miles from Paris and for the first time was won by a foreigner, S. F. Edge, in a British built, 40 h. p., Napier, landing the event in 10 hrs. 41 mins. beating out all of the famous racers of France, which is equivalent to saying of the world.

The other contest ending in Vienna was one which required considerable argument and discussion to announce the winner of,



The Winning Napier with S. F. Edge, the Driver, and Mr. Napier, the Constructor of the Vehicle

but Marcel Renault, in a 16 h. p. vehicle built by himself and weighing 1,400 pounds traveling the 695 miles in 26 hrs., 47 secs. was finally given the honor. The triumph of this comparatively light carriage over the big vehicles was in its way almost as much of a surprise as the lifting of the Bennett cup by an Englishman was.

The finish of the race occurring on Sunday brought tens of thousands of Vienna's sport loving citizens to the famous trotting track near the Rotunda in the Prater where the contest was scheduled to finish between the hours of 12 and 2. Hardly had the hands of the clock reached 2 when afar down the road a cloud of rapidly approaching dust was seen and the excitement of the vast assemblage became intense, since none knew who the rapidly approaching racer might be. Like a cyclone in the desert swept by the successful racer and when the dust had temporarily cleared away it was

seen that it was Renault, a competitor almost unknown to most of those present, though not without well deserved fame in his own country.

At once the air was filled with cheers and Vienna's most famous band, which was stationed at the finish, broke forth in the Marseillaise in the singing of which thousands of spectators joined. Not only was Renault first of all the contestants to finish, but he was



Renault at the Finish

also accorded the honor of having covered the course in less time than any other vehicle, not alone of his class, but of all classes.

The second arrival was Count Zborowski, well known in America as a former resident of Morristown, N. J. The Count's vehicle was a 40 h. p. Mercedes. This total elapsed time should have ranked second to that of Renault had he not been penalized 40 minutes for violating some rule governing that portion of the race wherein Switzerland was traversed.

In quick order, third and fourth, came Maurice and Henry Farman, both driving 70 h. p. Panhards. Baras, on an alcohol-driven 24 h. p. Darracq, arrived fifth, followed by Edmond and Hemery, each on 24 h. p. Darracqs—many were amazed at the prominence of the light vehicles. Then came Baron de Forest, his 40 h. p. Mercedes being ingloriously towed, his supply of gasolene having given out at the last moment—a decidedly unfortunate occurrence, since otherwise he might easily have won the race itself.

Considerable feeling was shown at the giving of the race to Renault, he having flagrantly broken the rules of the contest by failing to be checked at Florisdorf, a suburb of Vienna, and again by not having slowed down to the legal rate of speed while traversing the streets of Vienna, as all contestants were strictly enjoined to do. Many thought and openly expressed the belief, that had the offender been of any other nationality than a Frenchman the leniency shown him might not have been duplicated. As proof of this they point to the fact that Zborowski's penalty of 40 minutes was strictly enforced and his offense was in no wise different from that of which Renault was said to have been guilty.

The official results issued gives the winners and the times as follows:—(1) Marcel Renault, 26 hrs. 10 mins.; (2) Henry Farman, 26 hrs. 34 mins.; (3) Edmond, 26 hrs. 46 mins.; (4) Maurice Farman, 26 hrs. 51 mins.; (5) Zborowski, 26 hrs. 58 mins.; (6) Teste, 27 hrs. 29 mins.; (7) Baras, 27 hrs. 41 mins.; (8) Hemery, 27 hrs. 56 mins.; (9) Marcellin, 28 hrs. 13 mins.; (10) P. de Crawhez, 28 hrs. 33 mins.

These are the gross times, inclusive of the periods occupied in traveling over control stretches wherein no racing was allowed. There may be good reasons for including these, but they are not apparent on the surface. It would surely have been more useful to have given the actual net times, that is, the number of hours and minutes in which racing was actually engaged in. As for the full official results, it is said that they will not be computed for months long after the public has forgotten all about the affair. There is apparently as much red tape surrounding a European road race as there is about the tabulation of a census report, which is much to be regretted, since the public prefers to have its official notification of who won, why and how to follow closely after the event itself.

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It is a very easy matter to follow automobile advice that travels in the direction you are going.



## Eve Never Did

**"N**O, sah!" said Uncle Simeon as he gazed over the slowly wagging ears of the animated boneyard which in a mulish way supplied the power to the horseless vehicle in which he sat; "I doan like dese yere automobilly clos' no how. I doan like to see folkses wearin' things like dese. It's agin' sense an' reason. Yes, sah! Dey didn't nebber wear sich tings in de good ole Bible times, sah! No, sah! Yo' won't find goggles spoke of oncet. Look at Ebe in de gyarden of Eden. Did she go prancin' 'round in one ob dem automobilly coats what fits like it was a meal sack? No, sah! Ole mam Ebe she done had better sense'n dat. I ain't got no patience wif dese yere wimmins ob nowadays, I hain't. Why cayen't dey foller in de footsteps ob de Bible, I ask yo'? Wy doan' dey foller ole mam Ebe? Dat's what I wan' ter know. Yeh doan' nebber hear ob her wearin' sich nonsense t'ings as an automobilly coat!"

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The gentleman in the dark to the one in the light: "'Who am I?' Who do you tink? Can't yer tell be me cap, me lamp and me blinders dat I'm one of dose automobil fellers?"

## Sad Case of Chris. Crossye

**W**HEN the members of the Africo-American Auto Club had removed their coats, loosened their "galluses" and otherwise made themselves comfortable, President Missfire Sparker called the meeting to order by hammering the table in front of him with a monkey wrench.

Routine business having been disposed of, the case of Brother Chris. Crossye was brought before the meeting for final action. Brother Crossye had been one of the first converts to automobiling, and the ragtime manner in which he manipulated a runabout had elicited unbounded admiration from the foremost Africo automobilists.

In one week he was arrested five times. During another seven days he was licked by five different horse owners. Complaints came in so fast that he was finally suspended pending an investigation. He was now present and ready to be investigated, and it was not long before a curious condition of affairs developed.

Brother Crossye was not only color blind, but his vision was way off in other directions. What to the eyes of any other person was a large moving van with two horses hitched to it appeared to him to be only a small boy with a pug nose, drawing a cart along the street. That accounted for his bumping into so many vehicles.

The curbstones along the streets appeared to him like so many chalk lines, and unless a pedestrian had red hair or wore a blue necktie he appeared like a wavering shadow to Brother Crossye. Lamp posts he could not distinguish at all, and another automobilist was often taken for a poodle dog trotting along. If an Italian had a push cart loaded with fruit on a corner Brother Crossye took him for a bay window on the second story and rode right into him at full speed, and all the street cars appeared to him to be lame men crossing the road to get a glass of beer. When these facts came out it was the unanimous opinion of the members that he must tender his resignation, which was reluctantly done and promptly accepted.

The usual argument as to the superiority of one automobile over another was then begun and continued until the janitor turned off the gas in the basement.

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There's a fortune in store for the man who will invent a motorless automobile.



# THE FAIR CHAUFFEUSE

A STORY FOUNDED ON FACTS

BY CLARENCE JAMES

**B**E it known that I am a married man and the owner of an automobile, I also am the owner of various other useful as well as unuseful articles, but this story has to do only with the two just mentioned. I have driven an automobile for about two years, and my wife has driven me for about—but that is a family secret.

In an amateur way I am quite a clever automobilist, that is, I know how to run a motor vehicle, and have more or less intimate acquaintance with spark-plugs, trembler springs, gears, clutches and the like. These facts have nothing at all to do with the story, in their telling I am just trying to square myself, so that you will know it was not my fault or my carelessness which was responsible for what follows. I am merely following the example of the older married men, whose motto is: "Blame everything bad on your wife."

My wife is a small but determined little body; what she lacks in size, she more than makes up for in spunk.

My new gasoline car is one of those huge, two cylindereed, twenty horse powered affairs such as you see advertised every day. I won't tell the make, as the manufacturers might feel discouraged, although what happened was not the vehicle's fault any more than it was mine, remember that.

Now that I have described the principal characters, I will get down to the story.

The eventful day began badly enough; it was close and sultry, one of those days when solid discomfort seems to have everything its own way.

Toward evening a breeze sprang up, and life seemed once more worth living.

After dinner I persuaded my wife to take a ride with me. She had never been in a gasoline motored carriage before (I have only



had this explosive affair a month; prior to buying it I had always used an electric), so my wife, who had just returned from a two months' sojourn with her mother, had never been in my new treasure.

I went back to the stable, got the new vehicle out, ran it up to the door and stopped.

My wife after a little coaxing got in and I made an effort to start the brute (my carriage has a crank at the side; in starting you open the compression tap, give the handle four or five full round turns, and it will start the motor the first time—so the agents and the instruction books say). Well I did my part all right, but the motor didn't start. Just about the time I was thinking naughty things, my dear, little, innocent wife leaned over and said: "John, dear, are you raking out the ashes?"

This drove all my bad humor away, and I tried starting the motor again with better success.

After I once got it working it ran finely. We had been out about an hour, when we came to the boulevard and my wife asked if I would teach her how to run the new conveyance. Of course it was up to me to do what she asked me.

I first explained the use of the different levers and steering apparatus, then I told her she would have to use her feet as well as her hands in operating the brake and clutch. She asked what the clutch was for and I told her. She wanted to know what the brake was for, and I said: "To stop the machine, of course." She wanted me to show her then how it worked, but I didn't see any use in doing so, since any fool can put on a brake. But my wife was not to be balked in that way, she merely stamped her foot and almost screamed: "Stop it!"

We were going at a fair speed and her feet hardly touched the floor; you can imagine the commotion when I threw out the clutch and applied the brake so hard that it skidded the wheels. The next I saw of my better half, she was speeding over the bonnet in front, at a twenty mile clip.

Luckily, I was able to catch her before she got all the way out of the vehicle.

Nothing daunted, she climbed back into the seat; asked for a few more instructions and then said: "I think I can run it now."

I changed seats with her and we started, very slowly at first. My better half did not seem to care much for the kind of steering the makers had equipped the vehicle with, she said "It was so

wiggly." It certainly must have been something of the kind because we were soon making the loviest zig-zags you ever saw. There was a small pond on one side of the road, which pond my wife seemed determined to run into. I had to reason with her and tell her that I already had one bath and didn't need another just at that time, beside, I argued, it was bad form to go in bathing with an automobile; we missed the pond in some way.

The next thing we came to was a long hill; we were about half way up this when my dear little wife threw out the clutch, let go the steering wheel, put her hands up to her hair and said: "Oh! John my hair is coming down." She had forgot to put on the brake, and before I thoroughly realized what had happened, we had backed down the hill about twenty feet, the speed gradually increasing. I called to her to put on the brake, but she couldn't do anything but scream. At last I managed to get my foot on the brake and stopped the Bellamy procession we were indulging in. We were both rather glad I had done this. But my wife was game, so we started up that hill again. As there were no toilet matters needing attention we surmounted it all right.

The next experience we had was on a long stretch of road, slightly down hill, an ideal spot for speeding, at least so my wife thought. She had now been running the vehicle for some time and had in consequence gained considerable confidence. She gradually increased the speed until we were going at a good thirty mile an hour clip. I asked her if she didn't think we had better slow down a bit; she only shook her head, apparently having a violent attack of racing fever, so all I could do was to hold on and pray for a non-funeral finish.

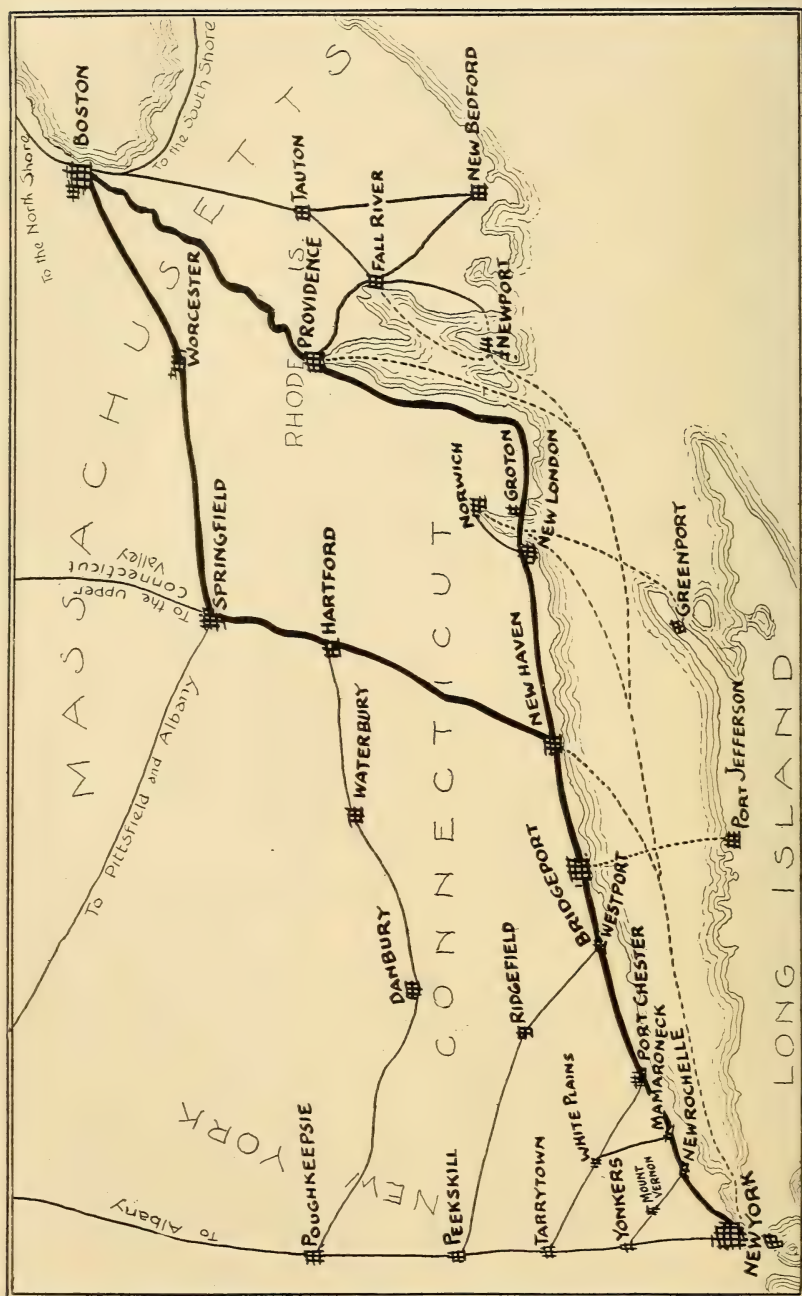
The road had just been sprinkled, and as we were approaching a sharp curve, I advised her to slow down, but as she didn't seem to hear me, I reached over and released the clutch; it was too late.

We had struck the corner. The rear wheels skidded. The flying carriage was aimed directly for a telegraph pole.

Crash — Bang — Bang!!!!!!

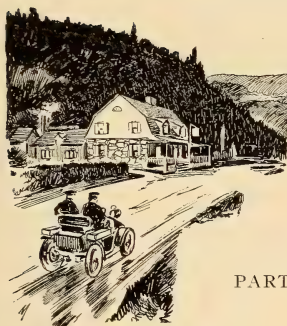
From this on, everything, so far as any personal knowledge of mine is concerned, is a blank. I remember nothing more until I came to, and peered out from under a multitude of bandages at my wife bending over me.

She in some miraculous way had escaped. The vehicle and I were the only victims.





# Touring Department



## New York - Boston Route

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PART III: THE PROVIDENCE-NEW HAVEN-NEW  
LONDON DISTRICT.

THE automobile touring routes from (1) New York to New Haven, and from (2) New Haven to Boston via Springfield, were outlined and illustrated in the June and July numbers of the *AUTOMOBILE MAGAZINE*. Coming now to the final and connecting portion, the "Shore Line" between New Haven and Boston, it appears the better way to continue the former series back to the starting point rather than, as it were, to begin over again and work out practically another route between the two cities. The groundwork of an important circular tour 508 miles, more or less, from start to finish is thus provided for anyone who wishes to make it—New York, New Haven, Hartford, Springfield, Worcester, Boston, Providence, New London, New Haven, New York and vice versa.

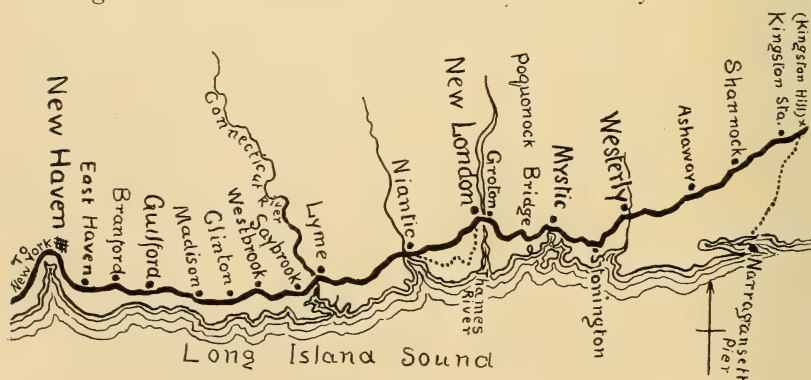
In this decision, too, another possibly-useful end is considered. Of the 168 miles from Boston to New Haven by the shore line, only the first 45 miles to Providence are uniformly good riding. Most of the way from Providence to New Haven, the roads are softer and ill-kept in comparison. It is not what a stranger would expect, but it is what he finds. However, one is here within a comparatively short distance of New York, and in case of accident or other necessity he may ship his vehicle back from any one of a number of Sound ports, losing only a stretch of coast-line very similar to the New York-New Haven portion. The superb run from Boston to Providence, as well as the fine routes up the Connecticut River Valley and across the State of Massachusetts would be already covered.

It is not intended in any way to discourage the making of the Providence-New Haven trip, which is a thoroughly practicable one with any type of staunch touring vehicle. On the contrary, a

section so near and so important a link to the summer resort country between Narragansett Pier and Cape Cod (including the entire Rhode Island coast), as well as to Boston and beyond, should be better known and more used by automobilists than it is to-day. However, it is the part of wisdom to look upon both sides; and he who credits this district with anything better than the average of country roads favors his subject. Especially in Rhode Island, the route itself is difficult at times to follow—the idea of a thorough road system is entirely lacking; and both here and in Eastern Connecticut, large stones and other obstructions are common in the center of the highways. It is the light-equipped automobilist who needs to be careful.

#### THE BOSTON-PROVIDENCE PORTION.

Of the many ways out of Boston toward Providence, the best is that which brings one the quickest into the unrivalled park system practically surrounding the city. From the Common and the Public Gardens, take Commonwealth avenue direct to and across Massachusetts avenue—the two at right angles in the outer Back Bay. At the Ericsson statue, immediately beyond Massachusetts avenue make a broad left turn into the Fenway, while Commonwealth avenue continues straight ahead. The Fenway is a narrow strip of park which, with a small portion of Beacon street, connects Harvard Bridge and the Cambridges with the extensive system south and east. Keep to the right, but without a turn, until a white strip faced with street car tracks (a comparatively recent innovation) crosses in making a short cut from down town via Boylston street. Go straight over this strip and take the first clear right out of the Fens and over into the Riverway.



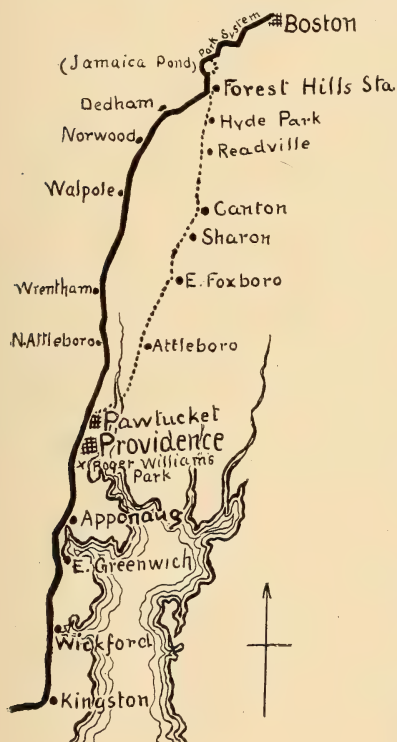
The Riverway like the Fenway is a narrow strip of the park system, a sort of arboreal boundary between Boston and Brookline. The latter stately village (as it will be called), is over to the right, beyond the half concealed right of way of the Boston & Albany's "Circuit Line." Followed without detours, the Riverway leads into either Jamacia way or Pond avenue, and brings up to Jamacia Pond, with a choice of two roads around. The one to the

right is usually preferred, along the west side of the pond, and past the entrance to the Arnold Arboretum. A short distance beyond the same road is carried under the elevated tracks of the N. Y., N. H. & H. R. R. at Forest Hills station.

Straight over past the station is the continuation of the park system into Franklin Park, but both of the roads to Providence turn right. One follows the main street car tracks and closely parallels the Providence Division of the railroad to Clarendon Hills and Readville, thence along the Milton Hills Road to Canton, to Sharon, East Foxboro and Attleboro to Pawtucket. The other follows Washington street, through Dedham, Walpole, Wrentham and North Attleboro to Pawtucket, where both roads coincide to Providence.

There is little choice between them, either in riding quality or mileage. Together they make an excellent day's round trip of a trifle less than 100 miles, from Boston to Providence and return.

The latter of the two named, being in all respects equal to the former and somewhat easier for the stranger to follow, is preferred as the first stage of the run back toward New York. This course having been settled upon, turn *very* abruptly to the right after crossing under the railroad at Forest Hills station and keep *immediately alongside* the same tracks until the road (Washington





street) is carried to the other side again—which is almost at once. This gives a straightaway to Dedham, a course midway between the Providence division of the railroad and its Dedham branch. Go straight through Dedham (Memorial Hall on the right), and at Norwood village turn right upgrade for Walpole.

At Walpole, turn left at the fountain (erected in memory of men of the town who served in the French and Indian war), and go straight ahead, while the street car tracks turn off still more to the left. Go direct to and through Wrentham, and two miles beyond, again turn left, where the road-sign says 16 miles to Providence. It is now direct on Washington street into and out of North Attleboro, then Broadway and Main street into Pawtucket. Main street carries over the river into Eastern avenue, where the Providence cars start. Turn left on Eastern avenue, alongside the street car tracks, but instead of following them for the next few blocks, keep on Eastern avenue, uphill to the right. This will bring out on Pawtucket avenue and afterwards into North Main street, Providence—all one thoroughfare from Pawtucket. The actual entrance into Providence—North Main street, then by a half-turn right on Market square, on to Westminster street—is rough and unattractive; but the view of the city ahead, and especially of the new State capitol, is fine. The distance from Boston is 45 miles, and the usual running time from  $2\frac{1}{2}$  to 3 hours.

#### THE PROVIDENCE-NEW LONDON PORTION.

Westminster and Weybosset are the principal business streets in Providence, and though not parallel, they both cross the city in the same general direction. Either may be used to begin the next stage of the run—the choice being a matter of convenience if a stop be made for any reason. But if going through without a stop, the best way is to come into Westminster street (from Market square and North Main street), turning left almost at once into Weybosset street, in front of the Industrial Trust Company's building. Weybosset street goes up past the post-office, giving and unbroken and almost a straight line into Broad street, the next connecting link outbound. In the very center of the city, where Dorrance street is crossed, the Union Depot is in sight over to the right. Just above on the left is the old Benificent Congregational Church, which pass and enter Broad street by a slight left bend.

Keep Broad street to Trinity square and bend right, away from the entrance to Grace Church Cemetery. This is the end of

the stone pavement on the way out of Providence, and brings on to Elmwood avenue which, with its immediate connections, is the best thoroughfare into the country. For two or three miles it is excellent riding, leading out past Roger Williams Park and over the Pawtuxet river. At the 9-mile post out of Providence, the road turns right, passes just above Greenwood railroad station and left again in line with its former direction, insomuch that a straight line from the 9-mile post to the highway above would be carried over the top of the station.

Apponaug, a mile further on, is entered by a right bend, uphill and away from the railroad tracks. At the principal four corners in the center of the old town, turn left on to the road marked "10 miles to Wickford," coming very shortly to a fine view of Greenwich Bay, which is part of Narragansett Bay. The road is direct though by no means straight, through East Greenwich and to the immediate entrance into Wickford. Unless desired to go down into this place, keep right (road-sign reads to Allentown), and thus avoid an unnecessary loop, in and out again on to the same road.

In case you do go into Wickford, turn right at the center of the town (straight ahead leads to the water-front), pass the principal stores, and right again where another left runs down to the shore. This detour in and out of Wickford is an extra mile or so, but it is good riding and gives the best opportunity for supplies between Providence and Westerly, for which reason it is more frequently entered by automobile tourists than it otherwise would be.

Allentown is nothing, and Pender's Corners, just beyond, merely a turning point toward Kingston. Take right at this point and  $4\frac{1}{2}$  miles beyond another right into quaint old Kingston village. Go straight through, down Kingston hill (smooth, but long and very steep), to and past Kingston station, across the railroad and turn left alongside the tracks. The next 15 miles are the most annoying on the trip, but on the whole more difficult to describe than to follow. In effect, the road zig-zags along the railroad tracks, now on this side, now on that, without the slightest trace of system, and little of direction; and at one point (Kenyon's Station) it actually doubles on itself for a short distance. From Kenyon to Shannock the distance is  $\frac{7}{10}$  mile by railroad; by road it is nearer 2 miles.

From the depot in Shannock, go down hill and by the same discouraging road through Hopkinton to Ashaway, the latter a small mill town important only as marking the beginning of better

things. Here turn right and follow the better road—telegraph poles all the way—6 miles or so to Westerly. Keep downtown to the post-office (in front also of the Dixon House), where bend somewhat to the right, go over the little Pawcatuck river and under the railroad viaduct where turn left, the sign reading 16 miles to New London via Stonington and Mystic Bridge. Old signs, seen occasionally along the way, especially one just out of Westerly, point via Old Mystic further North, but no attention should be paid to them.

Coming into Stonington village, pass the queer little library set in the middle of the spacious park and on to the railroad station. Cross the tracks and ahead a short distance, keep left, this particular section being a "long way about" caused by the irregularity of the shore, which the railroad takes in a straight line. The road now followed connects with East Main Street to Mystic Bridge, which cross. Take first left after clearing the town, then first right, the better to get over the long hill that looms up ahead. Contrary to what one might expect, the rest of the distance to New London is hilly, with fine views of the Sound and of the shore crowding one another. The route leads above, not to Noank and through Poquonock Bridge to Groton.

The last stretch is somewhat confusing as there are three different roads between the two points. One known as the "Lower Road" branches off to the south about a mile west of Poquonock Bridge, at what is called the "Avery Memorial Monument," entering Groton about a mile south of the ferry and opposite the plant of the Eastern Shipbuilding Company. Thence it is the river road to the ferry. The other two roads form a Y a half-mile beyond the "Avery Monument." Of these two, the one to the south, known as the "Treadway road," crosses the railroad a half-mile beyond and brings up at the top of the hill directly above the ferry slip. The other branches to the north at the Y already named, thence over "Long Hill," and coming into the river road a quarter-mile above the ferry. The middle or "Treadway road" is to be preferred not only as being the best and shortest of the three, but as bringing immediately to the ferry. Here across the Thames to New London, landing near the Norwich Line steamers' dock, and alongside the N. Y., N. H. & H. R. R. depot. Cross the many tracks at grade, straight over into State street and the center of the city—70 miles by road from Providence.



The monument at the intersection of State and Bank streets, New London, in sight as soon as the railroad tracks are crossed in coming from the Groton ferry, marks the beginning of the final run to New Haven. Take Bank street out, but instead of turning off with the car tracks, keep up over a large hill to Niantic, entering by a causeway over the Niantic river. Go straight through the town and 4 miles beyond, turn left, where the road-sign points toward Lyme. In old Lyme (no finer rows of elms in all New England), bend around the church and down to the ferry, a half-mile or so, cross ferry, go straight ahead for a short distance, then left into the broad macadam of Saybrook. Keep on well through the town—which is principally one long street—and on the lower end one fork leads to Saybrook Point, and the other to Westbrook. Take the latter, 5 miles mostly over new and good roads, to Westbrook, then to Clinton over a combination between common dirt and new macadam.

Straight through Clinton into Madison, a large “V” of elms points toward you, its two sides being roads, the one on the left to Guilford, which take. At Guilford, ride up alongside the park and at the end of it (where you come into the street to and from the depot), swing left a fraction of a block to get another straightaway in the same direction. A mile or so out, take left for Leete’s Island, pass under the railroad tracks at Sachem’s Head station and on to Stony Creek. These last three—Leete’s Island, Sachem’s Head and Stony Creek—are more names than places, since this bit of country is sparsely settled. The roads average scarcely fair and at times confuse, through occasional signs pointing to Leete’s Island and Stony Creek help out.

Between Stony Creek and Branford, the road forks, with no signs anywhere about. Turn first right, then left, following the telegraph poles into Branford to the public park, a short distance beyond which a turn right brings out on the last stretch to New Haven. It is a very pretty ride to and through East Haven, over two or three hills, and past Lake Saltonstall, with fine views in every direction. Keep along the street car tracks to the outer edge of New Haven, but where the cars turn right for an entrance of their own to the city proper, keep ahead with a single track. This is a good macadam road, down to old causeway with a short wooden bridge beyond, which brings into Bridge Street, New Haven, near the docks of the N. Y., N. H. & H. R. R.

Bend with the Bridge street car tracks one block right, then

first left into Wooster street (mostly paved with brick), which keep until it is broken by the uncovered railroad subway. Turn one block right into Chapel street and up (left) to the corner of Church street, the center of the city and the end of the run up from New York as well as the beginning of the run from New Haven to Springfield. This pivot of the New York-Boston circular tour is 53 miles from New London.

If returning at once to New York by road, go down Church street a short distance to Congress avenue (asphalted), where turn right to Howard avenue, to Kimberly avenue, to Elm street, to First avenue, to Main street, to Savin avenue, to Savin Rock, Milford, Stratford, Bridgeport, Stamford, etc., reversing the itinerary of the New York-New Haven district, published in the June number of this magazine.

#### CONNECTING "SHORE LINE" ROUTES.

There is a considerable amount of automobile travel between Boston and the summer resorts of the Massachusetts and Rhode Island coasts which does not come into the Connecticut-Long Island Sound district at all. It is a well-settled, interesting and withal an outwardly attractive country, altogether different from anything else in the United States. A network of uniformly good roads makes the connecting distances short, and the many optional ways of coming and going enable one to cover practically the same ground time and time again with ever-increasing interest. At first confusing to the stranger—particularly to one who undertakes to master the map in advance—actual contact soon discovers the order of it. From that time on, its pleasure possibilities indefinitely multiply.

The routes from Boston and its environs to Plymouth, New Bedford, Fall River, Newport and elsewhere in this section will be given in detail as early as possible in these pages. Meanwhile, as our facilities do not wait upon publication, subscribers' inquiries concerning them will have the best attention of our information and correspondence departments if they will only take the trouble to write and ask for the information direct.

The better to round out the outline of the Boston-Providence district, an additional dotted line is drawn on the map between these termini, through Canton, Sharon, East Foxboro and Attleboro to Pawtucket. This, joined with its counterpart, makes a round trip of just less than 100 miles easily covered in a day and suitable

as well for an inter-state club run. In the old bicycle days, this kind of tour was very popular in New England, and it ought likewise to be made a feature in automobiling.

Wickford and Narragansett Pier belong to the Providence-New London district, and are reached directly from the route between these points as given in this issue. Wickford is immediately off the line, and Narragansett Pier eight miles from Kingston Station over a good macadam road, which latter will be appreciated whether comes into it from the east or west, for the approaches to Kingston Station are far from good. Wickford is 22 miles from Providence and 67 from Boston; Narragansett Pier, 38 miles from Providence and 83 from Boston. Either will make one fair day's run from Boston or two days' from New York.

Stonington, in Connecticut, shortly after leaving Rhode Island, is hardly more than a point in the Providence-New London portion. But as one passes through the center of the village, a Stonington Line steamer is very likely to be seen anchored in the harbor, giving direct weekday service to and from New York. New London itself is an important point, as here the usual routes from the Norwich-Williamantic District are brought into the Shore Line. Connection is also had by water with New York direct as well as with the towns on the eastern end of Long Island—the latter a necessary link in any Long Island-New England tour. Saybrook and Lyme—on opposite sides of the Connecticut river and connected by a quaint old ferry—are gateways to and from a number of small towns directly north. They are also intermediate landings for the New York-Hartford steamers up and down the Connecticut.

New Haven is a veritable Hub of routes, as these three papers on the New York-Boston district have shown. But aside from these through lines, they are Connecticut locals interesting in case one has the time to search them out. Singularly enough, New Haven, Wallingford and Meriden are popularly considered Connecticut river valley points—an error which arises largely from their close association with Hartford and Springfield immediately above. But the Connecticut takes a broad easterly bend at Middletown, finding salt water at Saybrook Point, nearer New London than New Haven. Increasing commerce between New York and the middle and upper valley could not long accommodate itself to this round-about course, and has built prosperous cities and towns on the



direct way, while the river points dwell in the security of comparative isolation.

Tours nowadays by road to and through the Connecticut river valley usually start at New Haven, without thought of that part of the real valley below Hartford. From Hartford, they follow the Springfield line, as given in the last number, thence across the river to West Springfield and up to Holyoke. Northampton, South Deerfield and Greenfield are in the same line in Massachusetts, with Brattleboro and Bellows Falls in Vermont. All this is practicable touring ground for automobiles, and helps to substantiate the claim that New England has to-day more to offer the road-traveler than any other single section in the United States.

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### Worse Than Creeds

"Did you hear of the split in the Church of the Extended Invocation?"

"No; I haven't heard. What could it be about? I thought the members of that church were the most united in the city."

"They have always borne that reputation, but there is trouble enough there now."

"What about?"

"The members decided to give their pastor an automobile so he could more easily make the round of his parish, and, after the money had been collected, the question of whether it was to be a steam, an electric or a gasoline vehicle came up, and you can easily imagine the rest."

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### She Made a Hit With Him

"Yes, I saw Miss Rushmore last evening, and she struck me as"

"Oh, yes, as being more beautiful than ever?"

"No. She struck me as I was trying to cross Fifth avenue in front of that big tonneaued car she scorches around in, but I can't say that it was her beauty that made the most impression on me when we met."

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### A Universal Complaint

This speeding craze has grown so great  
    Dame Nature is affected.  
For days the giddy creature has  
    In scorching been detected.

## An Unexpected Obstacle

**L**YNCH him! Lynch him!" The cry goes up from a thousand throats like the roar of a wild beast thirsting for blood. With incredible swiftness the desperado is tightly bound and carried to a convenient tree.

Then the leader of the Vigilantes, his features distorted with hatred and the lust for vengeance, prepares to adjust the noose around the culprit's neck.

At that moment the doomed wretch whispers something in the leader's ear. To the complete astonishment of all present, the latter drops the rope as though he were stung and bursts into a flood of tears. As soon as he can speak he addresses the bewildered crowd as follows:

"My friends, I cannot do it—I cannot have his blood upon my hands! Yes, you may well look amazed, but I am perfectly sane. I am aware that this man is a cold-blooded assassin, a very fiend in human shape. But he has just informed me that when he was an alderman of Frog Centre he introduced and passed an ordinance prohibiting automobiles from proceeding through that city faster than two miles per hour under penalty of \$1,000 fine and life imprisonment for each offense"—here the speaker's voice choked with emotion. "Gentlemen, I ask you as fellow horsemen, can we, can we harm such an intelligent citizen as this?"

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### OPEN TO SUSPICION.

"My doctor has advised me not to buy an automobile."

"Heavens! He must be a quack."



## Catalytic Sparking Plugs

**W**RITING to *La Locomotion*, Dr. Paul Gans de Fabrice describes how he constructed an ingenious sparking plug to work on the catalysis principle. An ordinary sparking plug was taken and the platinum points were shaped to form two studs at some distance apart. Attached to these studs was a spiral coil of fine wire composed of an alloy of platinum and rhodium. A weak current passed through this wire causes it to become incandescent, and the motor can at once be started. The heat from the subsequent explosions keeps the wire sufficiently heated to explode the charges, so that only a small quantity of current is required at starting.

From this it would seem that the speed of the engine is entirely governed by the throttle lever, or else the greater the amount of mixture admitted to the cylinder, the earlier it is fired, and inversely, the less the charge, the later the moment of combustion. If our ideas are correct it is at once evident that this Fabrice form of ignition does not admit of a motor being run under the best and most economical conditions, *i. e.*, a small charge fired early, and further there would be a tendency to overheating. Dr. Gans de Fabrice, in his letter, however, says he has used this form of ignition on one of his cars for the past four years, during which time it has given him no trouble and complete satisfaction in every way.

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### Merely a Woman's Argument

Mrs. Hohmboddie—"Now, for goodness sake! don't look surprised and disgusted and injured and resigned when you hear what I am going to say."

Mr. Hohmboddie (with fortitude)—"I'll try not to."

Mrs. Hohmboddie—"Well, I want you to get me an automobile."

Mr. Hohmboddie (after an amazed silence)—"An automobile? For yourself?"

Mrs. Hohmboddie—"Of course for myself. It isn't likely that I want to present it to the cat or the parrot."

Mr. Hohmboddie—"No; but scarcely a month ago you said the sight of a woman dressed up in goggles and a meal bag coat sitting in an automobile made you blush for your sex."

Mrs. Hohmboddie—"So it does; but I am going to have an automobile all the same, and I am going to learn to handle it, too."



I know I won't enjoy it one bit, but do you suppose I intend to stay quiet at home and let all the other women in the street go careering off in automobiles while I am sitting like a mummy watching them?"

Mr. Hohmboddie—"My dear, mummies don't watch people."

Mrs. Hohmboddie—"No; I can't be odd—I must be like other women. And that is why I want you to get me an automobile—if I am only seen in it twice.

## Military Automobilm

GEORGE E. WALSH

THE automobile seems so eminently fitted for pleasure purposes that it is somewhat of a distortion of its original object in life to convert it into an engine of warfare; yet so progressive are modern military experts in adopting every imaginable invention for their particular line of work that the automobile appears destined to create as much a revolution in transportation in times of war as in times of peace. The development of the war automobile has been fully as rapid in the last few years as those designed for ordinary riding. Germany in particular has striven to construct practical war machines out of automobiles, and some quite remarkable tests and experiments have been made by the military authorities of that country.

There are two distinct purposes kept in view in developing war automobiles. One is for the simple purpose of transporting troops rapidly over a country that has not been provided with railroads. In Austria-Hungary, the Minister of War has lately had a number of automobiles constructed for this purpose. These war machines practically represent an entirely new type of transport. They are the heaviest motor vehicles yet constructed, and are intended to carry troops over rough country at an average speed of twelve to fifteen miles an hour. Each vehicle has a capacity of five tons, and this will be sufficient to carry forty soldiers with their necessary provisions and equipments. A score of such machines would be able to carry a respectable sized army across country in a short time. The success of the experiments seemed to justify the Austrian army in carrying on further work in this line.

The second line of development of the military automobile is for the purpose of carrying small field or Maxim rapid firing guns. The gunners and operators being protected from the enemy

by shields of nickel steel plate. With the shield in front of them they can run their formidable automobile down upon an army, and almost annihilate a body of infantry without exposing themselves to any great danger. In the German army a number of these motor-maximities have been constructed and tested so satisfactorily that more of them have recently been built. When these are completed the German army will have more than a dozen mechanical gun movers in the field equipped with Maxims, and the small automobile cavalry thus organized will be quite able to attack almost anything in the way of light soldiery.

Germany learned much from England's experiments with the armored cars in South Africa last year, and military experts were sent there to investigate the practical field tests of these new war horses. The armored cars which the English operated were all right except that they had one very weak point. They were easily derailed and their progress or return over the railroad line easily obstructed. They were thus rendered almost helpless by a band of quick horsemen which could double on their tracks and tear up the rails in the rear. This necessitated repairs by the soldiers under the exposure of sharpshooters on distant hills. The effect of the armored railroad car was thus totally neutralized by simple military tactics.

But it is reasoned that the military automobile, carrying its Maxim guns and soldiers, could not thus be crippled. There would be no track to tear up, and the automobiles could return across country where no enemy could possibly obstruct their ways. There would of course be certain parts of the wild country where the operators might be entrapped so that it would be impossible to escape without running back over a narrow road. But that would be the fault of the operators rather than of the machines. The modern military automobile is intended for the open country, and not for narrow, mountainous defiles where a mobile, wandering band of horsemen could entrap them.

Finally there is another field in military tactics for which the automobile is eminently fitted, and which the French have so far perfected better than any other nation. As armed scouts the modern high racing military automobile is of the greatest possible promise. The machines built for experimenting in the French army are of the heavy fast type, with speed and durability emphasized above anything else. They are capable of rushing across country so swiftly that they would quickly outrun anything which might be sent in

pursuit. At the same time, the operators being protected by steel shields from any ordinary rifle bullets, they could approach the lines of the enemy far better than any other scouts could. Their only possible enemies would be other armed automobilists or artillery concealed in some unexpected place. No infantry or cavalry could hurt or overtake them. Messages could be carried in this way with impunity, actually dashing through the sentry lines of the enemy, and riding close up to the inside posts of a camped army. The races which would follow would be exciting in the extreme and full of interest to the daring.

The automobile scouts of the future will also be provided with military balloon equipments for quick and accurate observation in the field. The automobile carries the balloon, coil of leading rope, and the necessary implements for inflating the balloon. The automobile can in this way run quickly across the country to some favorable point of observation, and then the operators can inflate the balloon and make an ascension. The whole equipment is compact and complete. A telephone connects the balloon with the automobile, and the operator of the latter proceeds in any direction indicated by the aeronaut. In this way the automobile carries the balloon nearer or further away from the line of the enemy. The observations from the car of the balloon can be taken from a dozen different points of view. In the event of an unexpected attack from cavalry, the automobile would be ready for resisting it. The cable of the balloon could be quickly wound up, and by the time the cavalry approached within shooting distance the automobile would be ready for a savage attack. With the steel shields raised in sloping positions, the bullets of the enemy would have little chance to touch the operators, while the sharpshooters from behind the shields could pick off the horsemen with ease.

Meanwhile the power of the automobile could be shown in another way. With a speed that no horse could hope to equal the machine could charge down upon the cavalry and disperse it. No horseman would be foolhardy enough to wait for such an attack. There would be a complete and demoralizing retreat. The automobile could fight a retreating battle equally as well as a front one. While running rapidly from the enemy it could train its guns on them and fire with pretty fair precision. On the whole the automobile party would be far safer than cavalry or infantry, and so long as the machine kept to the open country and steered clear of batteries it would have a fair fighting chance to escape from almost any trap



laid for it. This is so generally appreciated by the military authorities of Europe that extra heavy types of these modern Juggernaut war machines are now in the course of preparation.

Military automobilism furnishes a variety of sport which, in times of peace, has its excitement and risk not generally obtained by those who operate their machines merely in the interest of personal recreation. In Europe the military chauffeurs are practically exempt from local restrictions concerning speed, and their endurance and speed tests are conducted in a manner to excite the interest of any one familiar with automobile matters. The military automobiles have the right of way in Germany and Austria-Hungary at certain times of the year, and in specified parts of the country, and they are rushed across the country at their highest possible speed. The automobile courier is first entitled to all the privileges of the highway, and the high speed machine must make a record or lose the honors held out for the quickest in the races. These automobile couriers instead of following some fine, well-graded public highway, are supposed to cross the country and go through narrow and rough by-paths which would test the skill of the best chauffeur. The result of such speed trials is not to lower any race record such as we are accustomed to hear about in ordinary races on good roads, but the experiments show the value and durability of the machines, and testify to the skill of the rough riders. For, in truth, the military automobile courier is a rough rider of the most modern type, and he performs tricks and evolutions in the fields that might well eclipse the work of the best cowboy on his broncho.

The military evolutions of the automobiles carrying Maxim guns are no less interesting, but of a somewhat different appearance. They select likewise the wide open country, and the machines are driven at great speed across the country where few if any decent roads connect distant points. The machines must be heavy and durable enough to make these rough trips in all kinds of weather, and the operators are not by any means sparing on the machinery or their own nerves. It is the nearest approach to rough riding in a modern battle as could very well be imitated.

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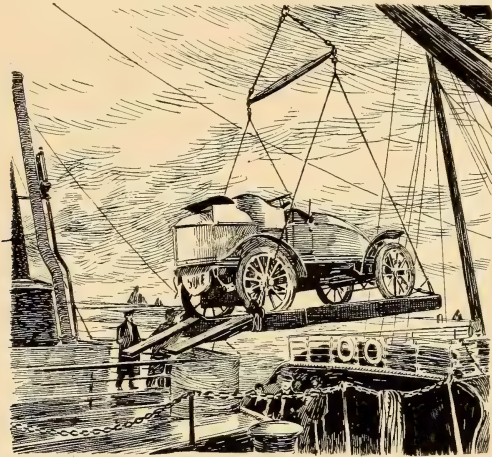
### His Proficiency as a Linguist

Brown—Are you anything of a linguist?

Jones—Well, I can read and understand French, German, golf, and automobile, but I can't talk 'em.

## Out of Its Element

**W**HEN it comes to transporting an automobile other than upon its own wheels and by its own power, the problem is by no means an easy one. Take for example the subject of the illustration herewith. Serpollet's famous "Easter Egg" has been to England and its owner wishes to return it to France. Manifestly the vehicle cannot cross the channel by any other means than a vessel, and the picture shows the big vehicle poised in mid-air just before it is lowered into the hold of the steamer which is to bear it back to its native land. This little bit of aerial automobiling, with its subsequent couple of hours of sea voyaging, costs the owner of



the vehicle about \$100, which shows how much more expensive it is for an automobile to travel on water than it is for it to do the same thing on land.

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### An Exception to the Rule

'Tis said the auto is a foe  
To all the aches and pains;  
That only healthy blood can flow  
Through every motorist's veins.  
And yet 'tis noted when they come  
A-scorching down the line  
That many drivers suffer from  
A curvature of the spine.

## It Was No Hampton

IT had taken considerable persuasion to induce the old lady to take a seat in an automobile, but finally she had consented to do so because she was anxious to reach the bedside of her sick grandchild in a village some twenty miles away, the last train for which had left some ten minutes before she arrived at the station.

When the owner of the big automobile, who was touring through Long Island, had overheard the old lady's regrets at being left he had insisted on her accompanying him, as he was to pass through the particular one of the half a dozen or more Long Island villages named Hampton where the sick grandchild lived. Everything went lovely until the almost flying vehicle in attempting to pass a wagon loaded with hay which occupied the entire center of the road went unexpectedly into the ditch and rather violently deposited its occupants in an adjoining field.

Recovering from the shock, though somewhat confused from the rather unusual method of alighting from a vehicle, the old lady asked of the chagrined chauffeur:

"Is this a Hampton?"

"No ma'am," he managed to gasp, "this is an accident."

"Oh, dear!" said the ex-occupant of the vehicle, "then I hadn't oughter have got out here, had I?"

But such naivety was too much for the owner of the damaged vehicle, and he said the only safe thing for one in his position to say—nothing.

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## Right up with the Times

"Our missionary tells us that the automobile is even pervading heathen India."

"So the benighted natives are learning to scorch, eh?"

"No, not to any great extent, but they have fitted the car of Juggernaut with a motor and a crack chauffeur, and the combination is doing great business."

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## The New Code

Motor and the world motors with you;  
Walk, and you walk alone,  
And you can't get into society  
If you have no auto of your own.



# Wheels of Automobiles

SIDNEY RUSSELL

**N**O detail of the modern self-propelled carriage is more worthy attentive and careful study or will better repay the time spent on their suitable designing than the road wheels of the vehicles. It may be, perhaps, worth while to briefly review present practice in this direction, more particularly in relation to high-speeded passenger vehicles, since it is certain that as higher speeds are called for more attention must be given to the provision of suitable road wheels to sustain the increased strain such speeds necessarily involve.

The history of the wheel as applied to the self-propelled road carriage (or to use its modern designation—the automobile) is sufficient in itself for a lengthy treatise but this cannot be here dealt with, the purpose being to show briefly the usual forms of wheels adopted (as above stated), with their advantages and corresponding disadvantages.

In the lightest class of automobiles—that of the motor cycle—we find the wire wheel is naturally universal, the tangent spoked variety being practically the only form. The great advantages of tangential spoke construction are increased rigidity and the direct pull transmitted from the hub to the rim; in addition to these the replacing of a spoke, should it be necessary, is both simple and easy. Speaking from considerable cycling experience, the writer has proven these advantages by the crucial test of the user, indeed in the earlier period of cycling when pneumatic tires were unknown, the great rigidity of the tangent-spoked wheels was often very unpleasantly conspicuous. On the other hand the direct-spoked wire wheel (*i. e.*, where each spoke is carried direct from the rim to the hub into which it is screwed) has been proven too elastic when used as a driving wheel, the force exerted tending to bend the spoke rather than being transmitted by it in a straight line to the rim as it is in the tangent pattern. In an attempt to avoid this a compromise was effected by the cycling experimenter employing a tangent-spoked wheel as a driver and a direct-spoked one for a steerer, but the introduction of the pneumatic tire forever rendered these expedients unnecessary and the tangent wheel returned—this time permanently—to popularity.

Coming to the next class of vehicles—the light autocar—opinion in this country is at present much divided. On the one hand

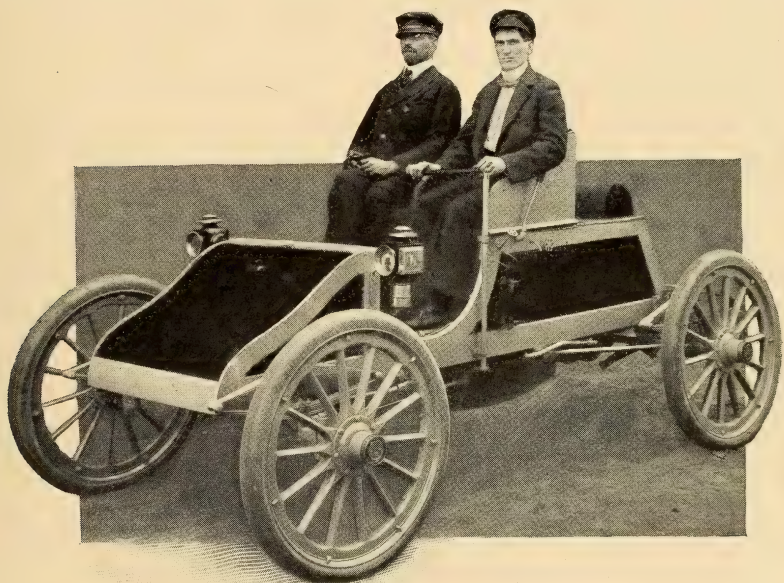
the wire-spoked wheel is cheap, readily understood by mechanics accustomed to the ordinary work of a cycle factory, there is less windage than with the wooden wheels, and the wire one is much the lightest of the two. Against this may be set the drawbacks that it is difficult to repair if the rim is badly buckled or many of the spokes injured, and it is not easy to keep clean. While in many cases it also imparts a fictitiously light appearance to the car to which some persons take exception. The objections are not so fanciful as on the surface they appear to be, but for light work it is probable that either type is equally efficient. As regards practical examples the popular Locomobile is an example of the success of the wire wheel when carefully designed and applied.

Above the *voiturette* type of car the fashion here and on the continent is the Madras artillery wheel, so called from the circumstance of this pattern having been adopted in India early in the nineteenth century for the wheels of field guns and for similar purposes where the wheels were exposed to extreme temperatures. In addition this form of a wheel readily permits of a damaged spoke or spokes being replaced without removing the tire from the wheel.

The introduction of this wheel into England for the equipping of automobiles the writer is of opinion is due to Mr. Walter Hancock, of Stratford-Essex, who employed them on his steam omnibuses about 1834. Indeed the excellent results attained by him may fairly be said to be largely due to the adoption of this type of wheel elsewhere.

The construction of this artillery wheel is so well known as to scarcely call for a lengthy description; the method usually adopted in building it is to accurately gauge and finish each spoke with long tapering or wedge shaped ends. (Hancock termed his wheels "wedge wheels.") These fitting closely together form the hub of the wheel (that portion as usually understood being absent). Two stout side plates are secured by bolts, one each side, or in the form usually adopted by modern builders the inner plate is in one with the box of the wheel, the outer plate thus taking the form of a large washer and the bolts passing through the spokes binding the whole strongly together. It will be seen that in this form of wheel there is really no hub at all, but great lateral strength is given by the bolts before mentioned, and it is comparatively easy to replace a damaged spoke. Various differences in detail occur in modern examples, the principal forms of which will be dealt with later, but the main features of all this type of wheel are practically the same.

Before dealing with these, however, reference may be here made to another form of wheel which the author believes to be of even older date than the one previously mentioned. This is known in England as the "Craskill" wheel from its inventor and was introduced some time previous to 1848 for farm carts and wagons. In this wheel the hub is of cast iron with pockets into which the spokes are driven tightly and the outer ends turned for the felloes by a special machine to one gauge. This wheel, however, or something very like it, has



L. D. Munger, the well-known tire inventor and manufacturer, and J. W. Howard in the steam racer built by the latter. In a recent trial this vehicle is said to have covered a measured mile in 51 seconds.

long been well known in the United States, where the writer believes it really originated. It is occasionally employed in England for heavy motor wagons, since it admits of a much cheaper construction than the more costly but more durable "artillery" wheel, but care in the construction of this type should always be taken to see that the spokes are not only sufficiently stiff for their task, but also as far as possible are relieved of direct driving strain, for if this condition is not complied with they have a tendency to snap off close to the hub.



To return to the "artillery" wheel—the greater part of the automobiles built in England and on the Continent are fitted with this form of wheel, so constructed that the spokes stand upright, being termed "cylindrical wheels," or sometimes very slightly dished, but there are one or two notable exceptions wherein this construction is departed from, and a form adopted which if more costly to construct certainly seems by its additional strength to compensate for the additional outlay. In this improved pattern the wheel is really double dished, the spokes being set alternately from each side of the hub in almost precisely the same manner as the spokes of the wheels of a traction engine are.

Another costly and consequently not very common type of wheel may be mentioned, although there are few instances of its application to modern self-propelled vehicles. This is the "Disc" wheel, which in either wood or iron is extremely stanch, but has drawbacks which are quite sufficient to account for its being seldom employed.

As to light vehicles, it will be remembered that many of the New York electrical cabs were originally fitted with a very neat and light form of this wheel built up of two sheet steel disked plates with a bent wood rim between them and the outer tire flanges, the same bolts holding all together.

With heavy vehicles good results have been obtained with a composite wood and iron wheel very much resembling the well-known "Mansell" railway wheel, but it is needless to remark that a wheel of this description is not only heavy but very costly to manufacture, and it is quite possible that this is the reason why it has no following now. The experience with these wheels by such an authority on the subject as Mr. John Thornycroft will presumably be of interest. According to a paper read by this gentleman before the British Association at their Dover meeting in 1899, after speaking of the advantages of a divided or false tire placed over the tire proper, he said:

"The steel disk wheel is, however, though very satisfactory in service, a rather heavy construction, and in later vehicles the wheels are of wood. . . ."

A drawback of such wheels when applied to very light automobiles such as motorcycles would certainly be the resistance offered by the wheel to a quartering wind, this being the direct cause of their abandonment when introduced in 1891 or 1892 for bicycles. A wheel of this kind was experimented with by the great French

cycle house of Clement et Cie. in an attempt to produce a bullet proof cycle for war purposes, but was eventually abandoned even for that.

A few words on the hubs as regards modern practice may not be out of place.

The lighter forms of wire wheels of course are provided with the usual cycle type hubs of steel or gun metal, the design of these calling for little remark. The heavier patterns already referred to also call for little comment except in so far as they are modified by the transmission arrangements. In by far the greater number of cases where wood wheels are employed for an automobile and where a countershaft-mounted differential is made use of the gear wheels or sprocket wheels are bolted to the wood spokes—an unmechanical and pernicious practice, but one which has apparently received the approval of almost all builders here. A notable exception to this is the wheel patented by Mr. Crowden of Leamington (England), where the hub (otherwise like an artillery wheel hub) is cast with a disk or flange to which the gear wheel is bolted exactly like a flange coupling. The same principle has later been adopted by Galliardet of Paris as far as the hubs are concerned, although the sprocket wheels are bolted to the spokes as before.

Spring transmission arrangements such as that of the Thornycroft vehicles are very successfully employed on heavy automobiles to relieve the wood spokes of direct driving strain, but for lighter vehicles there does not seem to be the same necessity for their employment. A praiseworthy plan (where the faulty method of bolting the sprocket or other gear wheels onto wood spokes is adopted) is to secure the gear wheel as near as possible to the felloe of the road wheel; consequently the spokes are relieved of much of the twisting strain of the gearing.

These remarks on a very wide and interesting subject which, in view of the present tendency to higher speeds, is bound to become still more so, are necessarily brief and fragmentary, but it is hoped will not only serve to roughly outline modern practice, but to indicate the lines success may ultimately be found to follow.

Cranbrook, Kent, England.

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### Added to the List

"Maud says she's wildly in love with her new automobile."

"Huh! Another case where man is displaced by machinery."

## How to Break a Horse to the Automobile

**I**T is the duty of every owner of an automobile to do what he can to overcome the prejudice which exists against the motor vehicle. As a rule those who are most violent in their opposition to the new vehicle are so more on account of the trouble they are put to through their horses becoming frightened, rather than from any personal dislike of their own to the new conveyance. Remove the fear of the horse and at once you remove a very great portion of his owner's opposition to the automobile. To aid those who, recognizing their "duty to others and to themselves," are willing to teach the horse to no longer fear the mechanical carriage, the Automobile Club of America has notified its members that the following methods of curing a horse of auto shyness have been tried and found satisfactory in almost every case:

Select a place, if possible, a small square in your town where the road is wide, or a mile of wide road where there are no ditches. Have the horse or horses to be trained driven five or six miles sharply before the lesson begins. A well fed animal just taken from the stable is apt to feel so good that he will cut up on the least provocation. The horse to be trained, if possible, should be harnessed alongside of a horse that is accustomed to automobiles. If this cannot be done he should be driven. It has not been found satisfactory to lead or ride a horse in breaking him in to an automobile. Under these circumstances he is too free and too little subject to control.

First Lesson: Send the automobile around this square or along the road at about six miles an hour. Have the horse which is to be trained follow the automobile at a distance of about ten feet. He will do this without protest. Let him follow the automobile for about fifteen minutes. Then have the horse pass the automobile, leaving it on the off side or right hand. The horse will probably shy a little away from the vehicle. Do not attempt, if the road will permit, to hold him up to the automobile or to whip him on the near side, but let him shy. As soon as he has passed the automobile he will probably break into a run. Do not check him too suddenly, but speak to him, and he will soon come down to a slow trot. Then have the automobile speed up and pass the horse, leaving him on the off side or right hand. Repeat these operations five or six times for another fifteen minutes. The horse will have become so accustomed to the automobile that he



will no longer shy and no longer try to run in passing it. A horse is really a very nervous animal and his lesson should not be too long; thirty minutes of this is enough for the first day.

Second Lesson: The first morning's proceedings should be repeated for say ten minutes. Then the automobile should be stopped at the side of the road and the horse should be turned around so as to face it. The engine of the automobile, if it is a gas engine, should be slowly rotated. The horse will shy a little. He should repeatedly pass the automobile while stopped in this manner for say ten minutes. Then the automobile should be set in motion slowly and he should pass it for ten minutes more, after which he should be sent to the stable. It will be found that he has gained considerable confidence and that he will shy but little. The occupant of the automobile should call out to the horse when he is passing, in a loud voice, "Whoa, boy!"

Third Lesson: The third morning the animal should be taken out and made to repeat or review all that he has learned on the first and second mornings, which repetition should occupy fifteen minutes. It will then be found that he will probably not shy at all, and the automobile may be speeded up and he may be passed when facing it at considerable speed. The horn should be blown gently at first and later on vigorously. The occupant of the automobile should call out to the horse when passing, in a loud voice, "whoa, boy!"

It will be found, if these foregoing instructions are carefully carried out, that there are but few horses who cannot be made to pass an automobile at a high rate of speed with safety in three lessons of thirty minutes duration each.

The point to be particularly pressed upon the teacher is to always let a horse shy in passing an automobile, if the road will permit. There are occasions where the road is so narrow, and the ditch so abrupt, that not only a horse must be kept up to the automobile, but he must be struck smartly with the whip to keep him from turning around and to prevent his capsizing the vehicle in the ditch.

It is quite useless to whip and spur a horse up to an automobile and try to force him, by giving him pain, not to be afraid of it. It is also a bad practice, in driving a horse past an automobile, to stop the horse and have the automobile proceed past him. He is frightened and very apt to turn around. The proper way is to stop the automobile and let the horse be driven past it.

If drivers of automobiles would proceed slowly in passing horses, and if when they see that the horses are frightened, they will stop, there will be no accidents caused by horses.

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### They Spoke as They Passed By

The motorman clanged his gong.

But the driver of the big motor truck paid no attention to him.

The motorman clanged again.

The conductor sounded a 4-11 alarm and yelled.

But the driver of the motor truck paid no attention to him.

Again the motorman clanged his gong.

"Get out of the way, there, you blank-dashed coal oil burning idiot!" he said.

But the driver of the motor truck paid no attention to him.

Going placidly along in the track at the rate of about four miles an hour, he was taking no chances of being arrested for scorching, and smoking his pipe, he sat with humped shoulders slouching over the steering wheel, lost in thought.

A few blocks ahead was the crossing of another street car track.

On reaching this crossing he turned slowly and deliberately to the right.

The motorman, wild with wrath, shouted at him as the car sped by:

"———! ———! ———!"

Then the motor truckman slowly and deliberately took his pipe from his mouth and replied substantially as follows:

"———! ———! ———!"

Then he replaced the pipe in his mouth and motored placidly on, lost in thought.

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### That Was What

"What do you want to sell that new runabout for, now that the season for using it is just beginning?"

"For \$500."

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### The Three-Year-Olds

Alas, poor infants! what a lot

Of sorrow you must feel!

Too big for baby carriages,

Too small for an automobile!

# MAINLY ABOUT MEN AND MOTORS

THE French chauffeur—erroneously supposed to be indispensable by many wealthy auto-ists—is being gradually supplanted by his more expert and not less trustworthy American prototype. The latter has heretofore been considered unsafe and too brusque to handle a French motor, though why anyone should have such an opinion is to my mind misty indeed. In the first place the French motor is simple and in many cases even more fool-proof than many of the American type, the multiplicity of cylinders notwithstanding. Relying therefore upon the evident desire of the American buyer of a foreign automobile to “own” a real, French chauffeur, your automobile caretaker from over the ocean has surrounded his almost sacred and eccentric person with that “I am indispensable” halo which has led him to abuse those whose ignorance he has played upon.



Some of us who “took in” the New York to Buffalo Endurance Test last year, fully remember the unwillingness of certain of these French autocrats to undertake the journey; in fact it was openly charged that more than one of them put their employers’ vehicles out of commission in order to relieve themselves of the hard work which would result from competing in the test. With their lack of knowledge of the English language (which they don’t care to acquire) and with the corresponding lack of any knowledge of French on the part of many of their employers, the French chauffeur can do pretty much as he likes, and has only to throw his arms about and shout a few excited words in French when he does not want to do certain things, to cause his indulgent





and ignorant employer to bow to the superior knowledge of his French automobile importation.

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I was told a good, true story about a French chauffeur recently which fairly illustrates the arrogance and cupidity of these gentry. It seems that a member of Collis P. Huntington's family bought three ten-thousand-dollar vehicles in Paris, and at the same time engaged an expert chauffeur at twelve hundred dollars a year with board and lodging thrown in, to care for the vehicles. The contract, as is the case with nearly all French contracts, favored the Frenchman, since it provided that if the American discharged the Frenchman before the year was up, the Frenchman was to get his salary in full and a return ticket to France. After reaching America someone offered the Frenchman more money than Mr. Huntington was paying him under his contract so Mr. Frenchman set about looking for a way to break his contract.

Mrs. Huntington had an American chauffeur who had been temporarily incapacitated from fulfilling his duties through an accident. Desiring to make a call she ordered her husband's French auto expert to take her out in one of the vehicles belonging to her husband, which vehicle the Frenchman was under contract to care for and to run. Here was "Johnny Crapaud's" opportunity to break his contract, and at the same time pay a compliment to the astute French attorney who drew it. The contract provided that the French chauffeur should only drive Mr. Huntington, so he declined, with many shrugs and lingual flourishes, to drive Mrs. Huntington. When the lady indignantly—and rightly so—complained to Mr. Huntington, the latter promptly paid off his French beauty, who demanded and received his twelve hundred dollar fee and a return ticket to France, although his year was as yet not half up. After a pleasant visit to his Parisian home, he returned to America to accept the new position, having faithfully observed his contract with Mr. Huntington by going back to France. There was nothing in the contract about his not being able to return within the year.

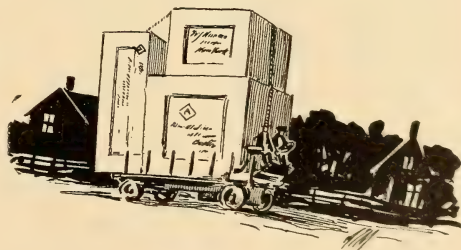
The following remarks must not be understood as an attack on the Automobile Club of America, because in my opinion, that body has already troubles enough from the automobile "unwashed" and needs no more heaped on it by the friends of the motor vehicle, of whom I have the honor to be one. Of course, the A. C.



A. is not exempt from criticism, and at times the correcting rod, judiciously laid, does almost everyone some good, for did not the wise Solomon say: "Spare the rod and spoil the child"?

The undue haste of the A. C. A. in rushing into print immediately after the Baker accident in the Staten Island speed tests was, I believe, an unnecessary blunder. It was a distinct catering to the clamor of a lot of anti-automobilists egged on by a section of the yellow press, which should have been ignored entirely. Not a line in defense of the automobile did I see in any of the papers from the A. C. A. leaders, though columns of abuse of the automobile duly appeared. A few of us, however, got our Fabers working, and without any desire to place laurels upon our own brows, let it be known that we served our guns so well that the yelpers ceased their clamor in much less time than they really cared to. Of course the dailies were glad to get the copy we sent them, since it was taken as direct recognition of their great importance.

The Automobile Club of America might also pay a little more attention to the correspondence of its members, even if the powers that be do not think along the same lines as, for instance, Ralph L. Morgan, of Worcester. This splendid specimen of young American manhood wrote to the

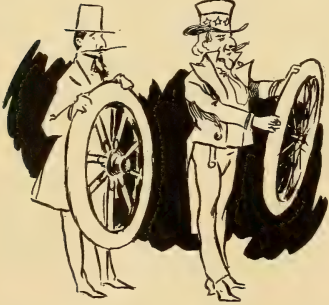


A. C. A. suggesting that trials of motor trucks might be held annually to a great advantage, since many manufacturers, as well as many merchants, are vitally interested in the subject of economical delivery wagons. To Mr. Morgan's suggestion the A. C. A. did

not even deign to reply. This treatment of their fellow member caused much surprise in Worcester and elsewhere.

Speaking of Mr. Morgan and the Morgan steam trucks, the writer was greatly surprised, recently, when he saw the big Morgan company building, which had been completed inside of three months, now filled with a small army of workmen turning out five and ten ton motor trucks, which burn oil as fuel, thus doing away with the cinders and smoke which were so offensive in the old steam trucks. The steel tires used on the Morgan trucks are six inches for the five ton, and twelve inches for the ten ton vehicles. It is perfectly obvious that these tires are great aids to the production and maintenance of good roads, since they crush all small rock and roll the rough places smooth.

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You've all heard a lot about how very superior the foreign wooden artillery patented automobile wheels are. Incidentally it is possible you have gathered the idea that maybe the American type of metal wheel is not quite as good as the foreign wooden one. If you have such ideas, get rid of them. The greatest test of an automobile the world has ever seen was the recent race from Paris to Vienna, wherein an average speed of 51 miles per hour was maintained for the entire distance across three countries and over the mountains at an altitude above the snow line. The winner of this race was a Renault car, equipped with wire wheels. An accident, say you? Well, then, how do you explain that notwithstanding the relatively small number of wire-wheeled vehicles in the race that not only the first, but the fourth, the sixth and the seventh vehicles at the finish had wire wheels? As Mr. F. G. Mott, Jr., who knows a thing or two about metal wheels, remarked in commenting on this victory of the American idea of wheel over the foreign idea of one: "Most of the vehicles in this race were driven by their designers or their makers. These men certainly had ample experience and opportunity to judge of the merits of wire and of wood wheels, and certainly they were not inclined to risk either their lives or their reputations. These people all used wood wheels formerly, yet in this instance they used wire



ones. Any significance in that?" Certainly seems as though there was something in these facts, doesn't it?

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One of those light-weighted, sharp-featured youngsters whose good fortune it is to be able to ride a running horse better than other youngsters, and who in consequence consents to accept a salary for doing so which would make even a bank president envious, came out of the Waldorf on a recent evening and took his seat in a big French touring car, for the purchase of which he had probably parted with no small number of the thousands of dollars he so easily earns. The big vehicle started right enough, but before a dozen feet had been traveled, it snorted, buck-jumped once or twice, then stopped short, and shook itself violently and noisily. The miniature owner bit savagely at the big cigar he was smoking, pulled this lever and that, looked here and there, but all to no avail. The big vehicle declined to proceed. The chauffeur jumped out, barely touched some portion of the refractory motor, and forthwith the big one was off with a snort. The jockey-owner had his horse sense and his horse-guiding skill with him, and to them alone was he indebted to just missing a passing hansom. Then the vehicle stopped again and the churning motor made a melody such as even no lover of an automobile cared much about hearing. Among the onlookers, most of whom knew the vehicle's owner, was a newsboy who promptly proclaimed his acquaintance by exclaiming:



"Give her de whip, sport, or yer'll never pull out o' de bunch! Git a move on yer or dey'll all run over yer, sure!"

The young owner never appeared to be aware of this or the other remarks which greeted him in his embarrassing position. Looking straight ahead, he bit yet harder on the big cigar and waited for the alert chauffeur to once more straighten things out. When this was done and the big vehicle was once more on its good behavior and away, the gamin, notwithstanding his former failure, could not resist shouting after the disappearing jockey-owner:

"Now yer got 'em, sport. Git up on her back an' ride her out, den maybe yer'll finish in de money!"

But even the silver initials on the rear of the fast vanishing automobile were now scarcely readable, so maybe the jockey-owner never heard this last bit of gamin sarcasm. At any rate he never gave any sign that he did.

I am told the figure for French chauffeurs is near forty dollars a week at the automobile stations—a tremendous advance over Paris wages—and some of the French fraternity are giving French waiters a few elementary lessons in chauffeurism and are dividing the spoils of American ignorance and absurdity. I predict that the French chauffeur will enjoy only a few more short months in his American clover field, and he may well sip the honey therefrom while yet he may.



The rasping "Going, going. For the third and last time, are you all done?—gone!" is now being heard in connection with the alleged sales of alleged automobiles. The "going" refers to the sale of the vehicle, not to any allegation that it either has gone, will, or can go. The "gone" is a tender allusion to the cash of any one foolish enough to have parted with it in return for the vehicle. In plainer language, the auctioneer thinks he has found in the public's anxiety to purchase automobiles an opportunity for his peculiar talents. Perhaps he is correct in this idea, then again, perhaps he's not. Wisdom would say to all intending owners of automobiles that the auction mart is hardly the place to purchase either a cheap or a reliable vehicle. In such matters it is best to part with your money only in exchange for a vehicle, the seller of which you will know where to find and when, should you after purchasing it discover that what you thought you were buying and what you bought were not exactly one and the same thing. Auctioneers are good things in their places, but just at present it does not seem that they are absolutely necessary as a medium between the buyers and the sellers of automobiles.

THE SENATOR.

## Automobiling At Sea

ANGUS SINCLAIR

**O**N the sea is not an ideal place for automobiling, but I find that there is considerable mouth motoring done there the same as great feats are achieved by the same appliance in clubs and other places where automobilists meet and find listeners to their tales of wonderful feats performed mostly by the imagination of the narrators.

There is a resort in every ocean liner called the smoking room, where fragments of knowledge are thrown about quite recklessly, in a way that I have often heard statements about railroad matters distributed in the rooms where brakemen and other train men assemble. A talkative brakeman can generally give listeners more information about the railroad he is employed upon, than the president and general manager; and the habitués of the steamer smoking room, assume to know more about the management of the ship than the captain, and are prepared to give pointers to the chief engineer about the care of engines and boilers.

It was in this resort of indiscriminate wisdom that I happened to overhear on the second day out a discussion about automobiles, which was very amusing if not edifying. Two young men, of the vealy age, were the leaders in telling what they had done in running automobiles. They were of the class that is indebted to their fathers for the means to purchase automobiles, but that did not inspire any modesty, and it seemed to convince the auditors that the vealy youths must be good authority on the sport they had made their hobby. Their pride was in the speed they had made, and if half their tales were true, both of them ought to be in prison. They talked as if the roads belonged to the people who own automobiles, and that other users of roads have no rights which automobilists ought to respect. They discussed the best plan to follow with skittish horses, and both agreed that the easiest way for the automobilist was to keep up speed and let the drivers of horses look out for themselves.

Here is the class of men who are raising a sentiment in the United States against all automobilists. Those who are interested in the development of the automobile industry, and in making the automobile a popular means of pleasure, utility and sport, ought to do their best to suppress the reckless, irresponsible class which I have been writing about.



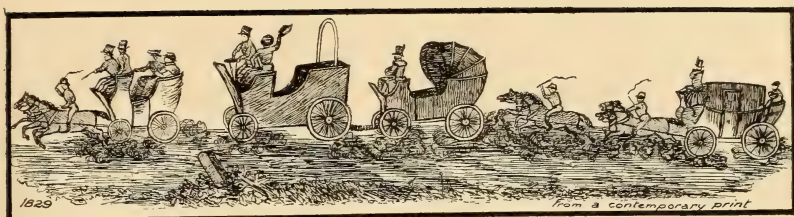
Some of the worst transgressors are members of automobile clubs which nearly all have rules under which members with dangerous tendencies could be disciplined. I am not aware that adequate punishment has yet been inflicted by any club to a single transgressor of its rules, even under crying provocation.

Automobile clubs or the law ought to exercise some supervision over those who run high speed automobiles. There is a prevailing belief, that as soon as a man learns how to manipulate and steer an automobile, he is a competent motorist. That is by no means true.

An intelligent man who knew nothing whatever of mechanism might be put on the locomotive pulling the Empire State Express and in four or five weeks he would learn to handle and run the engine as efficiently as an old engineer when everything went right. But in case of an impending accident he would be dangerous and useless to grasp and control an emergency.

It would take four or five years of experience to train the man to act before he had time to think, when a sudden necessity for prompt action arose. It is the lack of that kind of training which makes the inexperienced automobilist weak, and which has led to so many serious accidents.





## An Adam of Automobiling

SAMUEL E. MOFFETT



It was Fair Day at Melksham. The streets of the little English town buzzed with country people bargaining for cheap finery at the peddlers' booths or staring at the Punch and Judy shows on the corners. Suddenly a hum of astonishment, swelling into rage, rose on the outskirts of the crowd, and as it grew in volume and fierceness, Punch found himself perpetrating his direful deeds without an audience.

With open mouths the crowd stared at an apparition advancing slowly down the main street. First came a carriage and a pair, the horses panting in a white lather of foam, a postboy sitting limply on the back of one of them, a grimy mechanic on the box with the driver, and a couple of spruce gentlemen inside. Next, an astonishing puffing monstrosity—a thing on four wheels, with fire glowing beneath, a mist of steam rising behind and a couple of engines wheezing between the wheels. Two men were riding on the box, but instead of reins, one of them was gripping a horizontal wheel with which he seemed to be guiding the devilish contrivance. There were no horses—like the Chinaman's cable car in San Francisco fifty years later, it was a case of "no pushee, no pullee, go like hellee."

Not only were there no horses to pull the infernal machine, but it itself was drawing an open barouche in which some men sat with an insolent nonchalance most exasperating to a free-born Briton. Behind this outrageous contraption came another carriage with four lathery horses and two wilting postboys. Eight gentlemen of leisure and as many engineers and mechanics were distributed among the various vehicles. So, to the amazed and

indignant inhabitants of Melksham, appeared on July 30, 1829, the steam automobile of Mr. Goldsworthy Gurney on the first long journey ever performed by a locomotive at a sustained speed, either on road or rail.

Mr. Gurney had been scorching between London and Bath at the appalling rate of ten miles an hour or more, but on approaching Melksham, he had slowed down to a walking pace to avoid exasperating the crowds at the fair. But the popular wrath at his ungodly innovation was not to be so easily disarmed. The hum of anger swelled to a roar. "I Bill!" shouted one conservative citizen, "Wot is it?" "Give it hup," Bill responded, "but 'eave 'arf a brick at it anyway for luck."

No further invitation was necessary. The air was speckled with flying "remnants of a paleozoic age." An engineer had his scalp laid open with stones and flints. The stoker had the same experience, and in addition was knocked off his seat into the road. Thereupon the rest of the sixteen mechanics and passengers formed in line of battle, and after desperate deeds of daring, succeeded in securing the caravan in the yard of a friendly brewer, where it was guarded by constables during the night. The steam carriage was taken to Bath the next day under the escort of the officers, and on the return trip it was smuggled through Melksham at midnight, drawn by horses.

Such were some of the diversities of life among the pioneers of automobiling. Most of us do not appreciate how much energy, ingenuity and courage were devoted to the development of mechanical carriages more than seventy years ago. When Gurney made the trip that so stirred the wrath of the conservatives of Melksham, England seemed at the beginning of an automobile age.

The system appeared more promising then than it did as recently as ten years ago. Gurney's carriage was a wonder for its time. It was intended to be used exclusively as a motor, drawing behind it another carriage for passengers. As first designed it was steered with a lever, like the light automobiles of to-day, but in its improved form it had a horizontal wheel, such as is used on the modern big machines. It had a pair of high pressure engines whose use was made practicable by several ingenious inventions of Gurney's, which have proved of fundamental importance in all subsequent engineering practice. There was a tubular boiler instead of the old kettle, and the famous Gurney steam jet, whose subse-



quent adoption by Stephenson, doubled the speed of the Rocket and made that pioneer rail locomotive a practical success.

The Gurney carriage was driven by cranks attached to the axle of the hind wheels, and it was so arranged that power could be given to one hind wheel or both. It was about ten feet long and



A 13 h p. Ader in Paris to Vienna Race

carried two men, most of its space being required for machinery, coke and water. It had the disadvantage of having to stop often for supplies. Every half hour its thirsty boiler called for more water, and every hour its hungry firebox insistently demanded coke. These things had to be found somewhere, or the machine would sit back and balk, and a balking automobile, then as now, could give lessons in firmness to a Georgia mule.

On the trip in question an extra supply of coke was taken along in one of the horse drawn carriages, but even at that time the idea of making a steam vehicle depend upon one drawn by horses to keep it going, was considered open to criticism. The difficulty was obviated later by having fuel stations at regular intervals along the road. On the journey between London and Bath, Mr. Gurney would stop whenever he saw water and fill up his

tanks, not knowing when he would have another chance. It made the machine puff with justifiable pride to rest in dignified ease while eight mechanics and eight gentlemen in tall hats and long frock coats ranged themselves in line and passed buckets from a pond on the other side of a hedge.

This journey was undertaken under the auspices of the quarter-master-general of the army, who wished to test the value of the steam carriage for military purposes, and the army authorities considered the experiment supremely successful. All the arguments against the new device were disproved at the outset. A complication with a mail coach and a pile of bricks broke part of the machinery, and almost the entire journey was made with the power of only one wheel. At the first stage of the trip, the motored vehicle met and passed twenty-one carts, seven wagons, two post-chaises, four mail coaches, seven stage coaches, one two horse dray, three gigs and six horses, and the report triumphantly asserts that not a single horse started or was at all disturbed except in the preliminary mixup. An average speed of ten miles an hour was maintained with ease, and in spurts the machine went at the rate of between twenty and thirty miles an hour.

Coke was sometimes not obtainable, and it was necessary to use coal. In such circumstances, as even Lieutenant-Colonel Sir C. W. Dance, the enthusiastic inspector and subsequent patron of Gurney, admitted, the steam carriage might be a nuisance. It poured out clouds of smoke, and in the dark "some sparks flew up the chimney which made the appearance of a beautiful firework. This would be highly objectionable and dangerous to thatches or haystacks, but it can never happen with coke."

It is noteworthy that Gurney, whose fertility of mind made him an Edison of his time, regarded the clumsy fuel he was compelled to use, and even the whole system of steam propulsion, as a passing makeshift. He distinctly foresaw the improved motors of to-day. In his testimony before a Parliamentary committee in 1831, he was asked: "Do you apprehend much decrease in the price of your engines?" (They were then costing \$2,500 apiece.) He responded:

"I do, and I also anticipate that steam will be supplemented by the use of other elementary power; but I do not think that will take place in our day. I think that steam will be generally introduced, and that the public will feel the importance of it; and that scientific men will be directed to examine and employ in its stead other substances, and new compounds are continually turning up,

and some will eventually be applied to mechanical purposes. . . . I do not specify any particular compound at this moment; I state those generally which are known to produce power by chemical change; some peculiarly explosive and aeriform bodies, for instance."

On this memorable trip in July, 1829, the Gurney steam carriage covered the two hundred miles from London to Bath and return with complete success. It ran up the steepest hills with ease,



Mme. Lockert on Alpine Tour

drawing another carriage behind it, at from seven to ten miles an hour, and it covered eighty-two miles in eleven hours, including all stops.

What that meant may be realized when we remember that in the first modern automobile contest in America in November, 1895, sixty-six years later, it took the winner ten hours and twenty-three minutes to go the fifty-four miles from Chicago to Evanston and return. Gurney's success was so impressive that within two years, from twenty to forty different motor carriages were under construction by different persons, some of them built, as the inventor testified before the Parliamentary committee, by men "who previously had laughed at the idea and considered it chimerical."



Gurney seems to have anticipated every possible objection. He was asked, for one thing, what would happen if the guide or director fell asleep, or dropped off his seat, or met with some other accident. "I have provided for all these casualties," he replied, "by making the valves of the engine only remain in gear while the guide is in his proper situation. The moment he is thrown off his seat by accident or otherwise, the engine instantly stops."

He explained that the engineer's foot held the valves down, so that simple neglect to attend to his business would stop the machine. The same contrivance enabled the driver by merely lifting his foot to prevent the carriage from running too fast down hill.

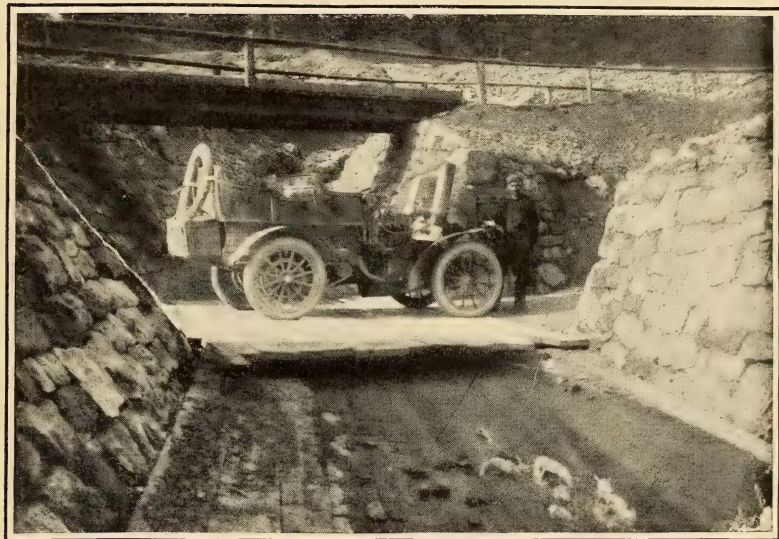
In 1831, Sir Charles Dance ran the Gurney carriage between Gloucester and Cheltenham uninterruptedly for three months as a business arrangement without a single accident. It covered the distance of nine miles regularly in fifty-five minutes and often in forty-five. Other inventors were working along similar lines, and some of their carriages were also accomplishing profitable commercial work. The sun of the "Automobile Age" seemed rising in a clear sky, when it was suddenly eclipsed by that stubborn prejudice of which the conduct of the Melksham mob had given a foretaste.

Turnpike companies discriminated against motor carriages on their roads, and when the matter came before Parliament, that body, notwithstanding a warmly favorable report from a select committee of the House of Commons which had fully investigated the subject, passed laws, which by means of excessive tolls and absurd regulations made it impossible for a self-propelled vehicle to be successfully operated on an English highway.

The British lead in automobile construction was abandoned, to be taken up sixty years later by the inventors of France. Gurney, suppressed by the laws that ought to have encouraged him, abandoned the subject of motor vehicles in disgust. Long before, he had invented the oxyhydrogen blowpipe and the Drummond light, had anticipated the idea of the electric telegraph, and had made suggestions concerning heat, electricity and gases which secured an acknowledgment of indebtedness from Faraday. Now he took his steam jet which he was not allowed to use on the highways and employed it to put out fires in coal mines, one of which had been burning for thirty years. He ventilated sewers with it. He invented the Gurney stove. He ventilated and lighted the Houses of Parliament on new principles. He devised a flashlight system

for lighthouses. He was knighted in 1863 for his services to science and died in 1875 full of years and honors, but still debarred by the laws of his country from developing the great invention which he had carried so far a half century before. In 1829, grave fears were expressed that the horse might be driven from the highways, to the ruin of British agriculture.

When Sir Goldsworthy Gurney died in 1875, the horse sur-



In the Arlberg Pass, Paris-Vienna Race

vived him, but he might not have done so if there had been a fair field and no favor. In 1875, the horseless carriage was practically no further advanced than in 1829. But if the inventors of the earlier age had been allowed to go on, there might have been a race of English Fourniers sixty years ago, and the whole history of the world's transportation system might have been written differently.

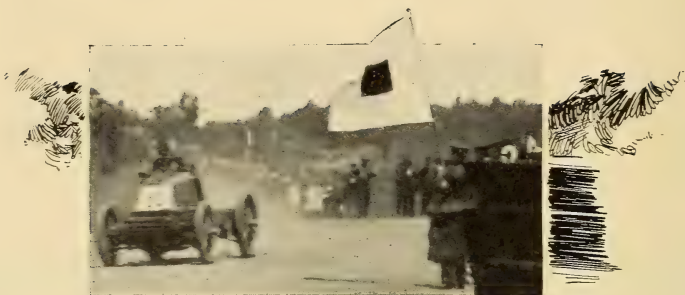
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### While the Rush Is On

"Ah! there she goes in her coach and four."

"Yes; she's not in the least ostentatious. She can well afford to ride in an automobile, but she prefers not to parade her wealth."

To be sure, there was the bulge in oats; but, on the other hand, there were repairs.



### The Plaint of the Hobby Horse

My springs are rusty, a coat of dust  
Obscures my saddle; my coat and mane  
Lack grooming sadly, and I've been thrust  
In this old attic, where I'll remain,  
Perhaps, forever. My equine pride  
Is crushed in knowing my master feels,  
Instead of me, he would rather ride  
A thing composed of a lot of wheels.

It's plain, my rider has quite forgot  
The faithful charger who bravely tore  
Through hurtling torrents of shell and shot  
Each afternoon that he went to war.  
Can he remember the morning when  
I jumped the seventy-foot ravine  
And saved his life from the yellow men?—  
Suppose he'd been on his wheel machine!

When riding over the lonely plains,  
As cowboys are daily wont to do,  
He often gathered my loosened reins  
To speed my race from the savage Sioux.  
In times when he was a noble knight,  
I won each glorious tournament;  
When highway-robbing, my splendid flight  
Another horse in a mile had spent.

Yet I'm deserted and left to lie  
In dust and darkness—alone, alone!  
While his affections are conquered by  
A poor, unreasoning, blind machine.  
Ah! luckless fate! that I hadn't died  
Before this day when my master feels,  
Instead of me, he would rather ride  
One of those noisy automobiles!



# THE AUTOMOBILE MAGAZINE

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## Man and Machinery

**M**AN shows his superiority to the animals by digging potatoes with a hoe. The hog roots them up with plenty of speed for his present uses, but the speed is limited, while with machinery the limit of speed of man has practically never been found.

Machinery is the saving of man. His spiritual and his moral salvation as well as his intellectual is being worked out by the spread, the domination, the complete entrance of machinery into every phase of his life; by the absorption by machinery of that drudgery which hitherto has inexorably held a certain portion of the human race subservient, a portion which would grow even larger and larger but for the saving power of machinery.

Theosophy, which believes in the ultimate elevation of every soul, must regard the growth of machinery as the most hopeful sign that has yet been vouchsafed it of the uplifting of the mass of souls out of the lower state they have been in for so many centuries.

There are two theories about the inhabitants of Mars—if there be such. One is that they are divided into two distinct classes—the ruling, intellectual, leisure class and the subservient, drudging class, hardly higher than our domestic animals. The other theory is that machinery has there been so far perfected that the minimum of labor with the maximum of intelligence suffices for sustenance. The choice between these two confronts the world.

Nature has tried her little sociological experiments as well as man; the squirrel, with its store of nuts, learned to provide for the future in one way; the bear, with his fall fat and hibernating habits, in another; the reindeer, pawing through the snow to the succulent moss, in another; the camel, with his seven water-preserving stomachs, in another.

But man so soon saw the immense resources of machinery that he deserted all the animals' methods for those that opened before him when the first savage pried up a rock with the branch of a tree and discovered the use of a lever.

In our present civilization the distinctions that men have made for themselves differentiate men more, almost, than they are differentiated from the animals.

"Some one must do the drudgery" is a phrase often used; but every time that a machine takes any of the heavy labor off the shoulders of man it rids the labor market of the demand for a lower type of man and calls for a higher; it adds a few to the "submerged tenth" who are a cumbrance to the earth and must disappear, and furnishes a livelihood to others better provided mentally and morally.

It all seems very cruel and heartless, and to the individual that suffers it is. But to the race at large it is not. It, more than the public schools—or rather, hand in hand with the public schools—is taking mankind to a higher and ever higher level of life.

The man that drives an automobile at twenty-five miles an hour has to be quicker, more alert, than the man that used to drive a truck at five; the man that runs a threshing machine, than he that threshed out grain with a flail.

Machinery is taking off man's hands the work that requires the least amount of brains; that can best be performed by some form of motor. It is not making man's labor less severe, rather the contrary; it is continually adding to his responsibilities, to the necessity of using his head with his hands. In itself his work is often harder than it was; yet, inasmuch as it requires a higher applica-

tion, it gives man such a sense of his own powers that he would never go back to the old easier methods.

Every mile added to the speed-producing capacity of a motor compels and marks a corresponding gain in man, not only in the maker of the motor, but in the operator and in the owner of it.

The members of the submerged tenth are the cart horses of the human race, only, like their equine prototype, unfortunately, they cannot be sent to the bone yard when their value to society has ceased, but stay on to hamper and perplex the victorious nine-tenths—perhaps also to soften their sensibilities and to remind them of the failures in the triumphal march of humanity.

Popular education, which sometimes seems so far from a success, is one of the necessary concomitants of this salvation by machinery. As year by year steel is produced with greater strength and fineness, so year by year man has to develop a little higher quality of mind, that he may not be left behind in this mad race between himself and his own machinery.

In all this exists the cause for the appearance of the automobile and the certainty of its final triumph over prejudice, ignorance and non-progressiveness.

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## Teaching Horse Sense

THE proper cultivation of horse sense is more difficult in some men than in the animals the same men drive. This is not complimentary to the biped, nor is it intended for a compliment of the quadruped. Facts are not based on compliments, though sometimes compliments are based on facts; the foregoing horse sense declaration is a statement of a fact without regard to whom it may either compliment or annoy.

When the horse is brought in contact with something he does not understand, and by his master is forced to approach the strange object, it is but natural that the dumb brute, through the mere instinct of self-preservation, should protest against a closer acquaintance with what to his uneducated brain seems to be an enemy. That is horse sense, and it is good sense, too.

When a man whose superior brain has enabled him to satisfy himself that a thing heretofore unknown to him will not injure him, he thereupon approaches it without fear, that, too, is horse sense. But when a man ignorant alike of the need for self and for his animal's education, by punishment and profanity forces the



poor, trembling brute to approach a strange and terrifying object, that isn't horse sense; it is sheer idiocy.

The automobile has been an abused user of the public highways quite long enough to have very conclusively demonstrated that idiocy of the horse driving variety is an extremely virulent, widespread and incurable complaint. Time is wasted in any endeavor to cure or even improve the mental condition of a motorphobe, hence the endeavor which is now to be made to educate the more intelligent of the two animals, that is to say, the driven, not the driver.

Few horses there are who cannot be "broken" to the automobile. It is not the speed, the noise, the odor, or the appearance of the new conveyance which frightens horses; it is that the combination of them all is new to the animal and not understood by him. He has grown acquainted with the railway, the trolley and the elevated, each of which has even in a greater degree the very elements which in an automobile so terrify him.

Education is then the cure for automobilitis just as it is for many another fancied illness, and the Automobile Club in proposing an academy where horses can be taught that the automobile is as harmless a user of the highways as themselves, is doing a most excellent bit of proselyting. Horse sense of the animal kind is not a variable or a questionable quantity. With the animal you can be certain that you can teach him that an automobile is harmless so far as he is concerned, and the Automobile Club is acting for the best interests of all concerned in undertaking his education.

It is unfortunate that malignant motorphobia is incurable, because even after you have educated the horse to a full realization of the harmlessness of the motor vehicle, you can never tell what the poor animal will be driven to do by the antics of his less intelligent biped, who by one of those contrarities of nature, is placed in control of one wiser than himself.

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## What the Poet Said

**W**HEN Ruskin was brought face to face with the bicycle craze he retired to his library and relieved himself of this opinion:

"I not only object, but am quite prepared to spend all my best 'bad language' in reprobation of bi-, tri- and 4-, 5-, 6- or 7-cycles and every other contrivance and invention for superseding human feet on God's ground. To walk, to run, to leap and to dance are the virtues of the human body; and neither to stride on stilts,

wriggle on wheels nor dangle on ropes, and nothing in the training of the human mind with the body will ever supersede the appointed God's way of slow walking and hard working."

Just what Mr. Ruskin might have written after he had encountered a 60 horse power racing car driven at top speed by a crack brained scorcher, would, in view of his foregoing opinions of bicycles, have proven most interesting reading.

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While the appearance of the automobile has been of great advantage to the native joke making industry, its increased use will not be altogether for the profit of those whose chosen occupation in life it is to rough hew humor from surrounding circumstances and conditions. For lo! these many years the sad souled commuter, the borrower, the lender and the motive-power of the rattling, rusty lawn-mower, has been a standard and a never-failing article for jokesmithing. To-day a little motor, a pint of gasoline and a comfortably cushioned seat makes the lawn covering operation of a mower a thing which children cry for and their parents sigh for. However pleasant all this may be for children and their parents, it cannot be equally so for the funsmith, who sees in this new invasion of motorology a direct attack upon his very limited stock of material.

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Among the many other new conditions brought about by the coming of the automobile, none is more insistent and none more evaded than the needed revision of insurance policies. As it is now the owner of an automobile has his choice between being robbed by the few companies who grudgingly grant him partial protection for his property at exorbitant prices, or of carrying the risk himself, which, as a prudent man, he does not care to do. Perhaps when the saffronic press has found something new to belabor the automobile will be considered even by the insurance people as something worthy of fair and businesslike treatment. Until the arrival of such a happy time, however, the owner of an automobile finds himself so far as insurance goes, uncomfortably placed between the devil and the deep, deep sea.

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Whether it be close to godliness or not, certain it is that cleanliness in connection with an automobile is virtually a necessity, if the owner of the vehicle would have either safety or comfort out of his automobiling. No mechanism as much subjected to the strain and dust as that which is employed to drive a road carriage should ever

be allowed to remain unattended for any length of time. To permit the motor, the bearings, transmission and the like to become caked with mud and dust is to rob them of a large amount of their efficiency, and to most certainly injure them to an extent which will call for their speedy replacement. The man who will neither care for it himself or hire some one else to do so for him should not own an automobile.

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There are not wanting signs that the severe attack of motor-phobia from which a large section of the metropolitan press, as well as the rural Dogberrys have been suffering is rapidly approaching a crisis. The whole affair has reached a semi-hysterical stage which always presages the near approach of the end of such attacks. The American people are particularly prone to severe, but very limited, lapses from their normal condition wherein they are usually possessors of common sense in an unusual degree; the lapse in the case of the automobile has been not only more pronounced but more prolonged than usual, and the reaction will be correspondingly rapid when it occurs in the very near future.

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We do not believe that the automobile was ever intended for a racing machine. Trials of its speed and endurance over long stretches of road, such as the one from Paris to Vienna for example, do much to convince the public as to the reliability of the motor vehicle, and are in consequence advantageous in every way, but as a purely catch-penny, money making, around a track and a betting proposition, we are pleased to say we do not believe the automobile will ever be a success. Racing and its accompanying bookmaking are the two things all those who really have the best interests of the automobile at heart are perfectly content to leave the supremacy of the horse unchallenged.

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The famous owner of the White Elephant and the victorious winner of the Bennett cup can sympathize with each other. Mr. Edge finds himself the holder of a trophy which, under the conditions he won it, calls for its being raced for on British territory. But racing law and British law are two very different things, and so, while Mr. Edge would be only too glad to defend his title to the cup in his native land he can not at present see his way clear to do so owing to British dislike of the automobile. Meanwhile the Frenchman is privileged to laugh when he sees this unusual example of British narrow-mindedness where sport is concerned.



According to the registration lists on file at the Secretary of State's office in Albany there are 1,600 automobiles in this State. Making due allowance for that peculiar streak of forgetfulness which always overtakes a man when he is called upon to report his belongings for taxation, it is not an exaggerated estimate to put the number of motor vehicles actually owned in New York State at 2,500; at an average cost of \$1,000 each the quite respectable sum of \$2,500,000 is found to be invested by New Yorkers in what unthinking critics have quite often seen fit to declare was only "a passing fancy."

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Is the automobile equal to the great opportunity which is its? A bell is judged by the degree of its resonance—by the completeness of its response to the blow of its iron tongue. And inventions are fairly measured by their human quality of resonance—by the promptness and greatness with which they respond, each in its place and hour, to the hammer-stroke of great emergency and great opportunity. So tested and so measured in view of the record thus far completed, the Automobile stands in the eye of the world to-day. The future must be judged by the past.

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To many the exact meaning of the word "tonneau" is not known. The word is French, of course, and means literally a cask. When applied to the now favorite type of vehicle body the appropriateness of the word is obvious, since the rounded corners of the body look like nothing so much as they do sections of a cask.

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Good roads in a lawless country soon end the lawlessness. Our army in the Philippines is putting this maxim to the practical test. The American trolley car along with the automobile, will soon complete the process.

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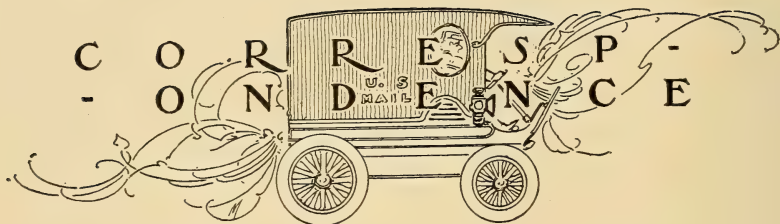
Experience is the best school to teach the man who knows it all about a vehicle that the more he knows the more he has yet to learn.

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No young man is excused from carrying a lamp upon his automobile merely because the light of his life may be on the seat beside him.

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It is harder for an arrested scorcher to call up sympathy than it is for an automobile to pass through the eye of a camel.



### Looking for a Hill Climber

**D**O you think that it is asking too much of an automobile to surmount a sand hill with a ten per cent. grade? I have tried a low-powered, light runabout and found that it could not be depended upon to do this at all times; now I want to get a vehicle that can and will do so. I do not care what the power is nor what the style of the carriage is so that it will do the work. I would not even object to taking a second hand vehicle, if by doing so I could be sure of getting immediate delivery, and something which had been tried and not found wanting. The great difficulty with the automobile, so far as I have gone, is that as they increase its power they increase its weight to an extent which seems to make the increase of little improvement when it comes to surmounting a hill. Any advice you or your readers can give will be appreciated, as you will note that I am just a bit out of the beaten tracks for automobiles.

FRANK H. YOUNG.

Broken Bow, Neb.

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### Prices Will Go Higher

**D**IFFERENT newspapers have been exploiting the wonderful achievements of Mr. Thomas A. Edison, by which it is claimed that in the near future the cost of an automobile will reach the ridiculous sum of \$150. As these statements are read generally by the public who believe them, I wish to state, as a manufacturer, that such statements and their publication are doing much damage to the automobile industry in general. All manufacturers of electrically propelled automobiles are, and have been, looking forward to the possibilities of the Edison batteries, which they hope will give greater mileage and durability while at the same time permitting of their being more rapidly charged than the

batteries in general use at present. Should this success be obtained by Mr. Edison, it is not expected by manufacturers that this improvement will reduce the price of an automobile, but to the contrary, it will probably increase the price thereof.

The electrically propelled vehicle of to-day is a practical success, as we who make them can easily demonstrate. Such a carriage can be run with more safety and greater economy than any other vehicle. The present cost of manufacturing a first-class electrically propelled runabout is in the neighborhood of \$900, and, if properly built, it can not be produced for a sum very much less than the one named.

The cause of the most failures in the automobile business has been the inability of the manufacturers to sell their vehicles, which in many cases are only crude experiments, at a price which would give them even a small margin of profit. The result has been that they have been compelled to dispose of their poor productions below cost of even their production. Such a condition as this certainly cannot last, and I therefore predict that in the near future the price of good automobiles of any make will be considerably higher than it now is.

At present many people not knowing the difference between a good motor vehicle and a poor one buy the cheapest then can find, and only after purchasing do they sadly realize the mistake they have made in the matter. I should like to have you publish this letter, since doing so will help enlighten the public on this most important subject, thereby aiding in the restoration of public confidence in automobiles of honest manufacture for which fair prices are asked.

New York.

A. L. SIMPSON.

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### The Inns of Pennsylvania

**Y**OUR article in the June issue on Roadside Inns, strikes a responsive chord in the heart of every true automobilist.

Since coming into this part of the country, I have frequently noticed and enjoyed the accommodations furnished by what I term "the smaller inns."

These places evidently derive a considerable part of their revenue from the liquid refreshments which they serve, but the large German element demand this and generally do not abuse it, so that these places are usually orderly and well kept. The portliness of this class of people has been frequently remarked and is often attributed to the liberal use of beer, but I am inclined to believe



that the first-class quality and liberal supply of the clean, wholesome food found on their tables, is rather the cause, and that to the clean, hardworking, well-trained housewives should be given the credit rather than to the brewer.

In my experience a small inn offers a touring party practically the advantages of home, in that the place is quiet, secluded, people friendly and willing to oblige, while the service, although lacking many conveniences that modern city folks are accustomed to, is interesting because of its simplicity. The rooms and beds are scrupulously clean, the meals liberal in quantity, well cooked, cleanly prepared and first-class in quality. The surroundings frequently have much that is inviting, such as well-kept gardens and flower beds, with birds, squirrels and similar pets, not to mention chickens and larger live stock in good condition.

The absolute quiet during the night at these places makes a change from city life both pleasant and refreshing, while the cost for such accommodation hereabouts is ordinarily 25 cents per meal or bed, and doubtless weekly rates, if one chose to locate at one place for some time, would be less, making touring in this part of the world cheaper than staying at home.

Reading, Pa.

CHARLES E. DURYEA.

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### Look Out for Sharks

**T**HE public and prospective buyers of automobiles should be warned against the numerous sharks that are trying to break into the automobile business. These are the same gentry whose undesired presence proved a serious detriment to the bicycle business. "Auction sales," "second-hand vehicles," "commission business," "consignments solicited," are some of the signs employed by the fakirs.

An advertisement in a Sunday paper of one of the above places located down town, resulted in the place being visited by the writer, and instead of finding what was advertised, I found one old steam carriage, upon which an inexperienced repairer was working. This particular place, so its proprietor says, is to have an auction sale (of all makes) and invites consignments. My advice is, keep your automobile unless you can turn it over to those who you know to be responsible people.

A. J. D.

Brooklyn.

(The AUTOMOBILE MAGAZINE has refused advertisements from

several questionable concerns of the above kind, and it will continue to do so. The warning of our correspondent is timely and should be heeded.—Editor.)

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### British Columbia's Horse Sense

**T**HE defense of the automobile and the automobilists in the New York daily papers by your editor was most timely and seems to have stopped the flood gates of abuse, at least temporarily. Do you not find that most of the runaway horses (said to have been scared by automobiles) were in charge of scared drivers, unfit to drive a sheep? We here in British Columbia are endeavoring to get horses accustomed to the automobile. Some of us make use of every opportunity to talk to drivers and to assure them that the trolley car, the bicycle, and other public conveyances were far worse scarers of the horse when they first appeared. A scared horse which cannot be made familiar with all other users of the highway has no business on the public road anyway, and when joined to an easily frightened driver the combination is unpardonable.

Victoria, B. C.

J. W. DAVIS.

---

### Self Propelling Invalid Chair

Is there anywhere an engine, either electric, explosive or steam that can be attached to an invalid's wheeled chair, so as to propel the chair and its occupant who weighs 145 pounds? If you or any of your readers know of any such a thing it would be conferring a great favor upon one who is in need thereof and prepared to pay any reasonable price for a motor which will do the work above outlined.

JAMES BUSSEY.

Bastrop, La.

The above is not the first inquiry which has been made to us for a motor propelled invalid's chair. We believe that there exists quite a demand for something of the kind, a demand quite large enough in fact for a manufacturer to devote his entire time to supplying.—ED.

---

### Wants to Be a Chauffeur

It seems to me that a chauffeur must be a man who not only knows how to run the motor vehicle which he is in charge of, but he must also be a resourceful man who can meet unusual conditions and overcome them. After devoting twelve years to the operating, constructing and repairing of more or less delicate and

complicated machinery the position of chauffeur seems an extremely easy one by comparison. Is there any way which you can suggest by which I can secure such a position? I am sure I can demonstrate my ability if I am only given a chance to do so.

Grand Ledge, Mich.

A. M. MORLEY.

### Popularity of Steam

Is it not a fact that there is a decided increase in the number of steam vehicles in use? I hear of new sales daily to people who were formerly afraid of steamers, chiefly because of the necessarily experimental construction of the early carriages and the consequent heavy repair bills. A good steam vehicle, to my mind, is a little better than anything else, and I believe that the steamer will outlast the gasoline type of vehicle.

Denver, Col.

FRANCIS V. PETERMAN.

### Still a Necessity

"Hooray!" exclaimed the optimistic equine, "the motor vehicle won't be able to take our places altogether."

"What have you heard?" inquired the sorrel in the adjoining stall.

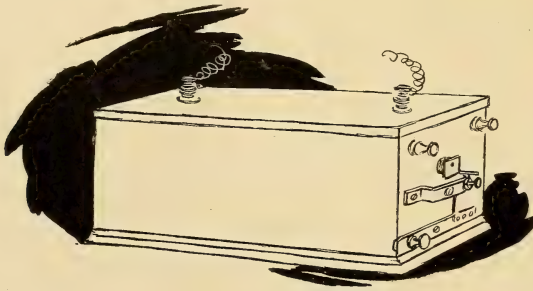
"Why, it says in this paper that the finest automobiles are upholstered in horsehide."

### A Familiar Item

He (reading the paper)—There it is at last! I've been looking for that statement for a long time.

She—What is it?

He—It says that the Chinese used motor vehicles several hundred years before the Christian Era.



A Shocking Automobile Affair



## Taken Unawares

**A**UTOMOBILISTS are very retiring. It is extremely difficult to induce them to have their pictures taken. For example, see how unconscious of the presence of the photographer each and every one of these gentlemen was when the photog-



rapher, taking advantage of their unconsciousness, pressed the button which resulted in this picture being taken and printed here, much to the annoyance, no doubt, of the gentlemen whose likenesses are thus made public.

## When Cupid Scorches

A summer's day,  
A cup, a tray,  
A pretty maiden pouring,  
Two happy hearts all full of darts,  
The love god blithely soaring.

The organ peals,  
The preacher spiels  
The part he's paid for playing;  
A "lodge," an auto, some flirting—what  
Is this the world is saying?

A charge, a plea,  
And they are free—  
Behold them fast retreating!  
A flight of darts, four living hearts  
As two begin their beating.

---

## Proverbs

Ride and let ride.  
It is never too late to learn.  
The beaten path is the safest.  
Caution is the parent of safety.  
Put a strong motor to a steep hill.  
A stop in time may save a fine.  
Where there's a wheel there's a way.  
A good driver turns in a small space.  
A little oil may save a deal of friction.



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# The Only Great Gasoline Engine Trouble **STOP IT! STOP IT! STOP IT!**

HOW? By Using the

## Perfection Spark Plug

PERFECTION NOT ONLY IN  
NAME, BUT IN EFFICIENCY  
AS WELL :: :: :: :: ::

Stop all your Gasoline Engine troubles by getting perfect ignition, which can only be done by using our

### PERFECTION SPARK PLUG

Guaranteed to be the only Jump Spark Plug that will stand all the severe tests to which a sparking plug is subjected without failing. These are the advantages of this sparking plug over all others. It is indestructible, not affected by heat or cold, unbreakable, perfectly insulated, gas tight under any pressure, impervious to moisture, perfection in every detail.

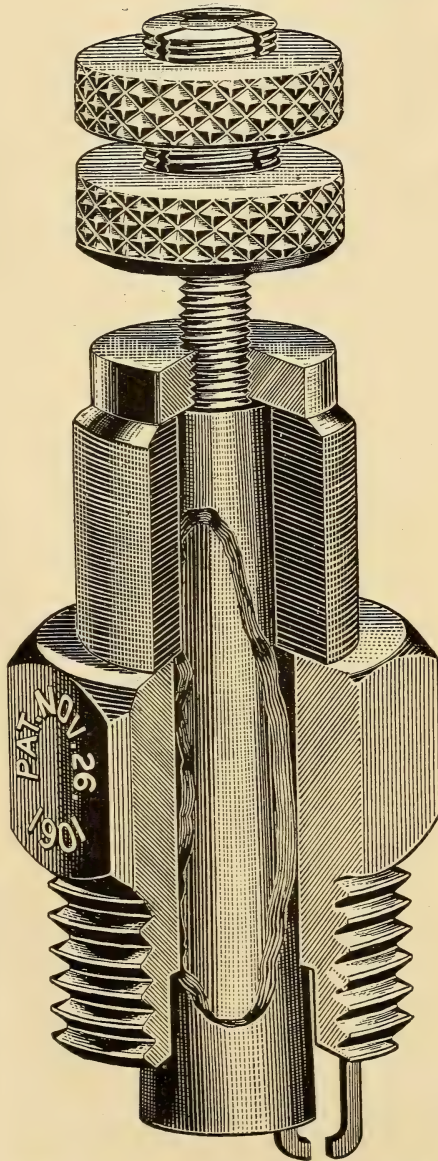
Pure mica taper bushing used only. No shellac or adhesive to carbonize. Cannot leak, as each succeeding explosion only tends to tighten joints. Pure platinum square sparking points. You need only to look at construction of this plug to see that it is absolutely impossible to leak or break, that it is insulated to resist many thousands of volts, and is not equaled by any plug in the world.

Mechanically perfect.  
All standard threads.

**\$3 Net; Discount  
in Quantities**

**AMERICAN MACHINE MFG. CO.** Manufacturing  
Machinists

Automobile and Electric Work of Every Description. **SOUTH BOSTON, MASS.**



# Waterless Knoxmobiles

**A**RE the great success and surprise of the season, due to their wonderful exhibition of reliable running and powerful hill climbing in all the endurance contests and the demonstrated success of their air cooled engines in the hottest summer weather. No water to freeze up in the winter time, and steam, boil and leak out and overheat the engine in the summer time. Hundreds of owners in all parts of the country will testify to the great superiority of our spring construction, the convenience of our folding front seat and large carrying capacity, the simplicity of our operation and control, and best of all, the satisfactory working of our air cooled engines.

**A  
Touring  
Car,  
Doctor's  
Vehicle  
and  
Runabout  
combined.**

Guaranteed delivery in thirty days.

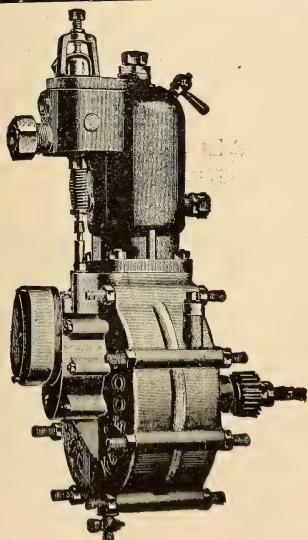
**Price,  
\$1100**

## Knox Automobile Company

Springfield, Mass.

AGENTS { NEW YORK, H. M. Davis, 152 W. 38th St.  
CHICAGO, C. S. Mason, 1408 Michigan Ave.  
BOSTON, Automobile Headquarters, 66 Stanhope St.

## KELECOM MOTORS and THE AUTOLYTE



**ARE THE BEST ROAD HELPERS  
Good Motors and Lamps**

ARE AMONG THE VERY ESSENTIAL  
REQUISITES IN AUTOMOBILING

**WE HAVE BOTH OF THEM**

**The Famous Kelecom Motor,**  $1\frac{3}{4}$  to 11 H. P. Used very largely abroad and is the most famous motor importation for Automobiles and Bicycles. A 5 H. P. Kelecom Motor in an 822 pound carriage with two passengers finished ahead without a single stop in the 100 mile Long Island Endurance Test, using only three and one half gallons of gasoline.

**The Autolyte Acetylene Automobile Headlight.** Four styles, all beauties. Our French model motor, very Frenchy, with American improvements, is the real Parisian article. I have a specially made lamp for Oldsmobiles. Headlights for racing and heavy machines with side lights in stock. Send for Illustrated Catalogue. Agents wanted.

**A. H. FUNKE** 98 Duane St.  
New York

Sole Importer of Kelecom Motors  
and Autolyte Lamp Maker



# GEORGES RICHARD CARS IMMEDIATELY

Of all the light power imported cars, my judgment is that there is none superior in efficiency, reliability and construction to the 10 h. p. Georges Richard.

Actual tests against all competitors have demonstrated the superiority of the engine, its control, economy and hill climbing abilities.

I have made an arrangement with the builders whereby a limited number of the Georges Richard cars will be shipped each week.

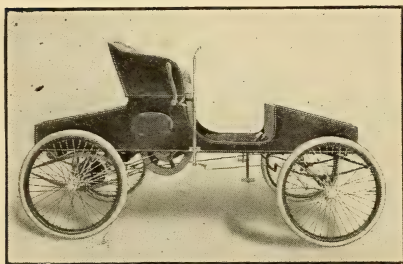
For wide-awake buyers, who want a superior light power car, here is an opportunity for immediate delivery.

We are always ready to demonstrate to interested inquirers.

ALEXANDER FISCHER, 239 West 50th Street, New York

## A Modern Automobile!

### "BUFFALO, SR." Automobile



Model 7. Price, \$800.

### AGENTS

We have the largest, the oldest, the most tried line, and the margin is liberal. **Guarantee Unquestioned.** Write for proposition for exclusive agency. "DO IT NOW."

CATALOGS READY.

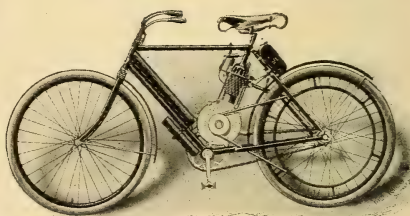
Adapted for use of Professional Men, Business Men and Families. Equipped with **6 B. H. P. Medium Speed Gasolene Motor**; low speed 6 miles, high speed 25 miles. Strong and reliable transmission, roomy body, wide seat, long wheel base; capacity, 200 miles 1 filling.

Vehicle Right.

Price Right.

ALSO THE

### "AUTO-BI" Motor Bicycle



Model 4. Price, \$175. 2½ H. P. Motor.

## Buffalo Automobile and Auto-Bi Co.

1200 NIAGARA STREET, BUFFALO, N. Y.

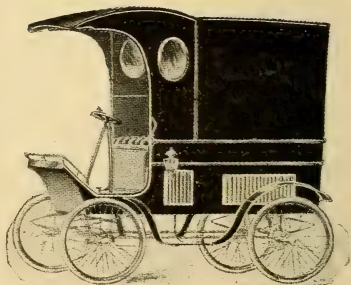
## THE BEARDSLEY & HUBBS MFG. CO.

SHELBY, OHIO, Manufacturers of

## THE DARLING GASOLINE AUTOMOBILE

### OUR PRICES

Style No. 1—Stanhope,	\$ 950.00
" 2—Stanhope,	1,025.00
" 3—2 and 4 Passenger,	1,100.00
" 5—Physician's Cab,	1,500.00
" 6—Combination Break,	1,350.00
" 7—Delivery Wagon,	1,500.00
" 8—Touring Car,	1,290.00



SEE OUR COMPLETE CATALOGUE. ADDRESS "DEPT. C."

In answering advertisements please mention THE AUTOMOBILE MAGAZINE.







In Lincoln Park

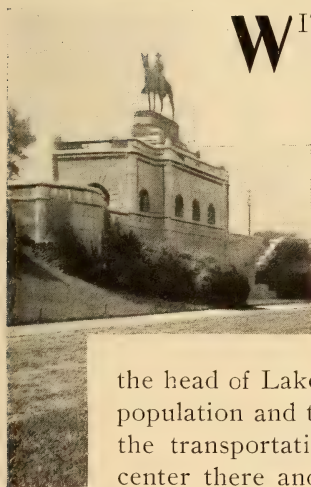
# THE AUTOMOBILE MAGAZINE

VOL. IV

SEPTEMBER, 1902

No. 9

## The Automobile Interests of Chicago



**W**ITH just a trace of that conscious importance which self-satisfied Easterners pretend to think the one essential and predominant trait, but with a foundation of deep interest shown in sound and practical ways, the automobilists of the Middle West are taking good care of the sport in their section of the country. It is essential to the well-being of automobilism as a national institution that this should be so. About

the head of Lake Michigan there is not only the greatest population and the largest wealth of inland America, but the transportation and commerce of the mid-continent center there and radiate in every direction. Out of the crucible of such conditions proceed the forces that go to determine the permanent average results of movements like these.

The term "crucible of conditions" is used most advisedly in this connection. Nowhere else in the United States do more lines and purposes cross in the warp and woof of the sport. The layout of the country has a great deal to do with it. Fine boulevards and bottomless lakeside-and-prairie roads are alongside, as well as at right angles to each other. Splendid modern parks and picturesque drives are as likely as not over against unreclaimed swamp-land and ragged forestry. Ultimate plans do not always show forth in the work. The one factor the same yesterday, to-day and



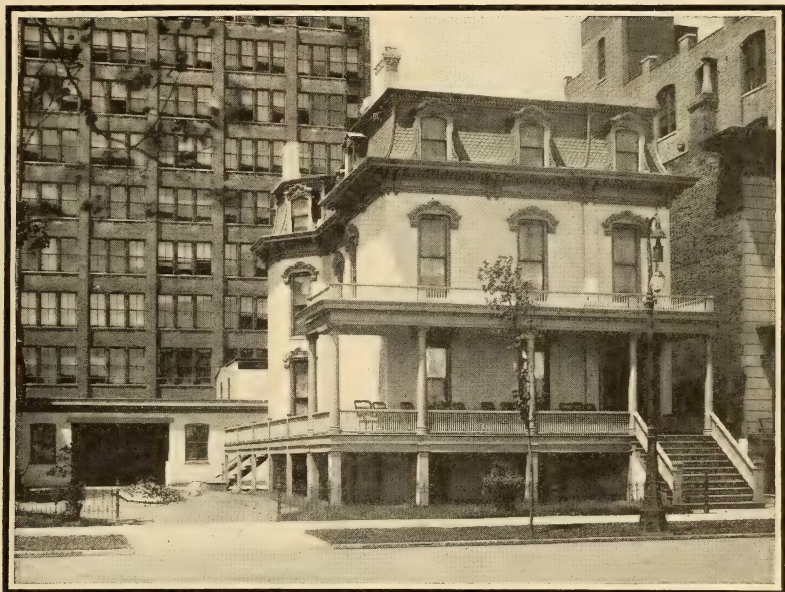
forever is the lake—its far-reaching blue at times one with the horizon of the near prairie.

Nature gave the Chicago district plenty of room to grow up and spread about in, wherefore you come across the "city limits" signs long before sidewalks, lampposts and other evidences of municipal organization begin. The native outdoors in and about the city is deeply sand-strewn, and wherever anything—road, park, business building or exposition—is lifted above this unstable bottom, money and labor have combined to do it. These are the two chief tools of the people and city of Chicago, and though applied at times in ways that pass the understanding of the outsider, none can deny that the achievements are many and great.

Failure in one direction invariably stimulates that sort of effort which wins the same ends by other means. On lower Michigan avenue, not far from the new Public Library, one may still see the half-abandoned office and storage building of the Illinois Electric Vehicle Company. Two years ago this was the headquarters of a motor cab service started on lines that under better street and road conditions would doubtless have proven abundantly successful. A large number of electric vehicles patrolled the downtown districts until midnight, picking up passengers anywhere and whirling them to their destinations as the horse could never do. The vehicles were especially desired by theater parties. It looked for a time as if the institution had become permanently established in Chicago; but of a sudden the service went out of existence, and the old time "cabby" took heart again. The cost of operation, repairs, replacements and other fixed charges took up the total revenue earned and the plan, commercially a loser, passed under eclipse. Some day it will come again—to stay.

Meanwhile that heavy cost of operation which a stock company in the public service could not overcome sufficiently to earn adequate dividends on the investment, has been distributed around among the fast-growing circle of automobilists. Individual enterprise now sustains a multiplying number of vehicles of every kind and description and, despite the handicaps that made this one failure, the sport waxes strong and prosperous exceedingly. In front of the building where the electric cabs went in and out for a time, there pass and repass a procession of machines of every well-known type and detail of construction, American and foreign. This variety is unsurpassed on this side of the Atlantic; in point of numbers only does the eastern seaboard unmistakably lead.

Individual enterprise, then, is the keynote and keystone of automobile progress in the mid-West. What is lost in the shorter riding season as compared with New York, Philadelphia and Boston is made up in close devotion to the cause in the day of opportunity. There is a great deal of technical knowledge of the up-to-date kind possessed by the rank and file among owners, likewise a careful following of the subject through the various publications devoted to the sport and trade. It is not uncommon that an enthusiast subscribes for six or seven journals, following such development in each as suits his particular interest in self-propulsion. Of



Home of the Chicago Automobile Club

such stuff is the success of any new and widespread movement made.

#### THE NEW CLUB AND ITS WORK.

A great deal of solid momentum has been imparted to automobilism in the Middle West during the past year by the Chicago Automobile Club. Late in starting and organizing for actual work as compared with the eastern clubs, much has been made up by vigorous and persistent effort since it has been under way. In 1900 a small but enthusiastic company under the name of the Western Automobile Association, it gained quietly, but without

attracting special attention to itself until the Chicago show in March of the present year.

At that time it kept open house in a room on the second floor of the Coliseum Annex, and visitors from everywhere found a warm welcome awaiting them. Some special indoor races were held in the name of the club, ambitious members participating.



C. A. C. Reading Room

A smoker or two followed in an informal social way, and at the end of the show the club had extended its name, while spreading its own acquaintance far and wide. Nor has it since been backward in any local enterprise of the sport. The 100-miles endurance run, first planned for July 12 and afterward postponed until August 2, was its own special affair. It was here

also that plans for a greater endurance run from Chicago to New York first took form. This event would doubtless have taken place this fall but for the fact that the Automobile Club of America will be busy with its New York-Boston run about the time best suited for the longer event. It will therefore have first place on the outdoor program for 1903, with the western club as the prime mover. Through this means other mid-western clubs will be quickened in their support of the long distance game.

Immediately after the Chicago show, search was begun for appropriate permanent headquarters, resulting in the lease of the three-story building at 243 Michigan avenue for a term of years. Extensive alterations and repairs were made to the building, which was refurnished complete and a garage large enough to hold from twenty-five to thirty vehicles added to the rear of the lot, with a driveway leading to and from the street. Complete possession was had in the early summer, and an abiding home for the social side of the sport established.



Reception Room, C. A. C.



The location itself is superb, being on Michigan avenue, overlooking the Lake Front Park and the lake, from about midway between the Illinois Central Railroad station and the Art Museum. It is just off Harrison street, less than two blocks from the Auditorium—the still more conspicuous locality, from which organized runs frequently start instead. The principal hotels, theaters and depots are nearby or easily accessible, while the direct and best thoroughfare between the north and south sides of the



F. C. Donald, President

city is Michigan avenue itself. From the docks along either side of the river still farther downtown, pleasure boats and commercial craft go to and from all Great Lakes ports, including Sault Ste. Marie, Mackinac Island, Duluth, Detroit and Buffalo.

The executive officers of the Chicago Automobile Club are not only enthusiastic sportsmen, but well-known business men as well. Mr. F. C. Donald, president, is Commissioner of the Central Passenger Association; Mr. Edwin F. Brown, vice-president, of Brown Bros. Mfg. Co., is also president of the



C. H. Tucker, Vice-Pres.

American Motor League. Mr. C. H. Tucker, the other vice-president, and Mr. F. X. Mudd, treasurer, are both gentlemen eminently suited for the offices they fill. The Board of Governors is composed of J. E. Keith, Dr. Milton B. Pine, B. F. Schlesinger, W. D. Sargent, Harrison Musgrave, J. W. Bate, B. J. Arnold and S. A. Miles.

Back of all that which the public intimately knows, the makers of and dealers in automobiles, accessories, supplies and the like form a very necessary



Edwin F. Brown, Vice-Pres.

and important part of the sport's reliance. As was the case with cycling, the trade's influence in the public events of automobilism is found to be a large and valuable factor. Though in the manufacture of complete machines Chicago itself does not yet lead, everything on the American market has representation there, and the home product of equipments and fittings is a large and growing one.



Walter L. Githens, Sec'y

Roads, like rails, come into Chicago from the four quarters of the big mid-Western country, and although their entrance from outside is at no time all that could be desired, the beaten path is through the center, not around. Touring westbound from northern Ohio, northern Indiana or southern Michigan (the Cleveland-Toledo-Chicago, or the Detroit-Jackson-Battle Creek-Chicago routes), the shape of the lake compels one to go around through South Bend and La Porte to Hammond and Pullman, coming finally into the boulevard-and-park system. The same entry would finish a tour up from Cincinnati, Indianapolis, Logansport, Fort Wayne or Crown Point, entering from the south-east.

Along the Drainage Canal points to Joliet and Kankakee opens up the way to a great deal of fine country in central Illinois, though not so conveniently reached out of Chicago. Then there is the Elgin-Aurora Century Course, touching the routes immediately west at many points. In time all these will be described and illustrated in the touring department of the *AUTOMOBILE MAGAZINE*. The Fox River Valley invites the tourist who wills to seek out the hills and vales that exist in the bosom of the prairie country. Striking north-by-west, there is the line to Lake Geneva, to Madison, crossing routes threading all of southern and central Wisconsin. Close by the north shore is the most popular tour of all—the Sheridan road, forming

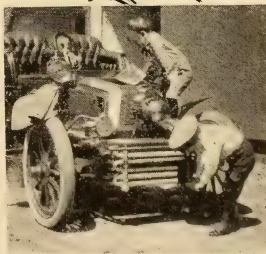


F. X. Mudd, Treasurer

an important part of the Chicago -Milwaukee line, as given in this issue.

Fine passenger steamers connect Chicago during the season of navigation with Kenosha, Racine, Milwaukee, Green Bay, Escanaba, Mackinac Island, St. Ignace, Sault Ste. Marie, Marquette, Ashland, Duluth, Charlevoix, Petoskey, Ludington, Grand Haven, South Haven, Benton Harbor, Michigan City and a hundred other points on the Great Lakes. Not only that, but connection may be had at Mackinac Island for the Canadian coast of Lake Huron, Owen Sound, Collinwood and other resorts. On all of these lines arrangements may be made for the accommodation of automobiles, though our experience has been that they quote no regular prices for carrying machines, but charge a considerable figure when one has made his plans and cannot retreat. This will all change, however, with increasing travel of this kind, as has been the case on Long Island Sound within the past year.

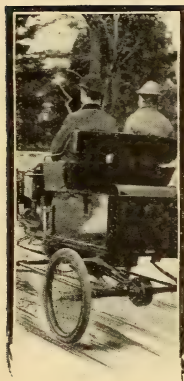
It will readily be gathered from this cursory examination of the present-time automobile interests of Chicago that there is a great future for the sport and trade alike in that section. The quality of adaptability is not lacking in the people interested any more than the quality of enterprise. In and about the city a surprising number of fine homes have provided special accommodations for automobiles, either in place of or in addition to the usual stables. This is possible in Chicago proper to a greater extent than on Manhattan Island, on account of the roominess of the average home and grounds. First-class storage and repair stations have been established at convenient points, and various other facilities for the furtherance of the sport looked after in a thorough-going manner.





## Evanston La Superba

ROBERT BRUCE



ONE result of the postponement of the 100-miles endurance run of the Chicago Automobile Club was to give several of the eastern automobilists and newspaper men an opportunity to get acquainted with the riding district in and about Chicago. To such—especially those who had heretofore known only the way in and out over the sands of Northern Indiana the Sheridan road was a revelation, showing that the picturesque country alongside Lake Michigan may challenge comparison with the Jersey shore or the upper Massachusetts coast, once the same thoroughgoing improvement is undertaken in the West, such as has been done in the East.

Accepting the invitation of a C. A. C. member, I have a round trip to Evanston to remember for many a day. Not that there was anything particularly exciting about it, on the score of speed or otherwise; but such an interesting little suburb, placed half way on an unexcelled lakeside boulevard, stirs the enthusiasm in a manner entirely unexpected at the beginning. Over the Chicago river by Lincoln Park boulevard and Lake Shore drive to Lincoln Park, and finally Lake View avenue into the Sheridan road—all this might have a close counterpart in any other section of country. But Evanston—there's only one—reposes in dignity unsurpassed among her kind an hour's ride after the start from the lake front, in downtown Chicago.

Your first hint of approach to Evanston is a two-faced "notice," prominently displayed at the limits of this modern Eden. The purpose of the first side is simply to call attention to the warning words on the other side. Your more accustomed companion smiles inaudibly as you ask him in all seriousness to slow down in order that you may read the words. Then he explains how



much more strict in its special way this demure appearing place is than Prohibition Park, Staten Island, ever thought of being, and how the speed restriction is only a means to a very different end.

Here the officers of the law are wont to swoop down on an automobile club run of a bright Sunday morning, after the manner of a far-western highwayman or a customs inspector at the Canadian border, and go through the crowd for articles (according



to their definition) contraband of war. If found possessed of a flask, you may either give it up, have it sealed during your run through Evanston or go to jail, with long chances on the middle course. Even oil cans and water tanks are viewed with suspicion. Street signs on some thoroughfares are removable, so as to be taken down Saturday nights and put up Monday mornings, to the occasional great confusion of the touring craft. If alcohol motors ever come into use, they will doubtless be

stopped at the border on general principles and be forced to go far around or fly over.

Once in the city, quaint bits of Evanstonian character appear on every hand. Instead of the usual sign tacked against the house, the words "For Sale" are built in the green lawn of a fine homestead in letters formed of stones whitewashed on top, like some names of towns and cities on railroad station grounds. In some of the outlying sections, telegraph and telephone poles are carried entirely through the lots, and not seen at all on the streets. Just off to the west is one of the banner dairy districts of Illinois, and small droves of cattle frequently pass through portions of Evanston—but not loose, for that would disturb the peace and harmony of the queenly suburb. As a precaution against this, each animal is secured with a halter, all of the latter connected together by a stout rope, binding the drove together into a solid line of protesting cattle. The drivers follow on bicycles, and



with whips in their hands direct the phalanx in the way it should go.

But Evanston itself is a picture, framed by the winding lake shore and placed in relief by the surrounding country. Such exquisitely beautiful lawns are not excelled by anything at Newport or Lenox; nor are its trees one whit less attractive than the more famous ones of the Connecticut river valley. They lack only the greater age and the special fame. Perfectly paved and well-kept streets and roads lead in every direction. All in all, it is the sort of place one would expect to find somewhere in New England rather than within an hour's ride of Chicago. But the freshness of the place proclaims it after all of the West—an advance type of multitudes of such places sure to develop on the shores of the Great Lakes within the next few years. Evanston's extreme Puritanism will finally wear off, leaving her not less attractive, but much more agreeable than she (sometimes) is to-day.

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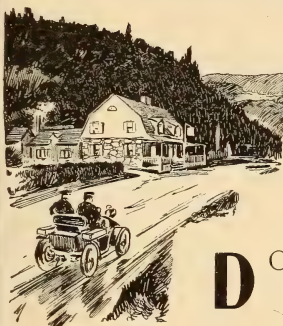
### From the Canticle of the Tourist

A draught of water from the spring,  
An apple from the wayside tree,  
A bit of bread for strengthening,  
A pipe for grace and policy;  
And so, by taking time, to find  
A world that's manly to one's mind;  
Some health, some wit in friends a few,  
Some high behaviors in their kind,  
Some dispositions to be true.





## Touring Department



### Chicago-Milwaukee Route

**D**OWNTOWN Chicago looks out upon Lake Michigan across a narrow park won back from the lapping waters. All in all, it is one of the most interesting inland marine views in the United States. Between the Lake Front, for the most part bare of tree, vine and shrub, but rich in green-sward, and the solid line of buildings on the opposite side, broken only by the ends of intersecting streets, Michigan avenue runs straight from the residential south side to the Chicago river, over against the north side. It is kept all the while in good riding condition, and with immediate connections to and from the suburbs and the open country at either end, it forms an important part of the best and most convenient thoroughfare across the city.

Automobile tours to and from the East via Northern Ohio and Indiana and Southern Michigan will finally come into it, while runs outward North and West, following the lakeside, will use it as the first link. Naturally, therefore, the Chicago Automobile Club has established its headquarters so as to overlook both the Lake Front and the avenue; and the locality becomes forthwith the point from which tours are calculated and distances reckoned.

Having spoken so favorably of Michigan avenue and at the same time emphasizing its importance to the road system of Chicago, the visiting tourist may not be prepared to say adieu to it almost the minute that he starts out toward Milwaukee. But the club house is located far downtown, and the Chicago river brings the avenue officially to an end after it has furnished many miles of good riding for the incomer from the East. Its immediate northern connections—a portion of Rush street with a single block of Ohio street—serve the purpose of a connecting link over the Lincoln Park boulevard and Lake Shore drive, by which the way opens up to the Sheridan road and the upper North Shore.

Though the intervening distances directly taken are about the same in both cases, the variety of rail, boat and road lines bind Chicago and Milwaukee together in more different ways than even New York and Philadelphia. There are no ferries to cross, for one thing, but instead there is a river at any of whose bridges road travel may experience a slight delay. The faster express trains of the C. M. & St. P. and the Northwestern make the run in two hours, and the passenger express steamers one round trip each daily. Cyclists commonly allow one full day for it, and automobilists should do the same, especially if stops are to be made en route. However, the roads, though sandy at times, are generally good, and if all goes well an unexpected delay can be made up by increased speed.

#### THE CHICAGO-EVANSTON PORTION.

In making the run to or toward Milwaukee, it is best to plan the start from in front of or near the Chicago Automobile Club-house, 243 Michigan avenue, or from the Auditorium. North-bound, pass to the right the Art Museum and the temporary Post Office, to the left the fine building of the Chicago Athletic Club and the new Public Library. Now in the older wholesale district, there are several blocks of stone pavement to the bridge over the Chicago river. Straight ahead would bring up to the Goodrich Line docks, but a half-turn left, then straight on over the bridge, carries over into Rush street and the North Side.

A glance back to the nearer side of the business building opposite, just before entering upon the bridge, will discover a marble tablet marking the site of old Fort Dearborn, the pioneer settlement at the meeting place of Lake Michigan and the Chicago river. It may be worth while to leave the stream of traffic at this point for a minute and swing up alongside for a closer reading of the chiseled inscription. In so doing one faces River street, a single block long, by which it is possible to come from the Wabash avenue business district without using Michigan avenue at all. There being no bridge from Wabash avenue to the North Side, road travel from that thoroughfare is brought into the Rush street bridge by River street, or else carried a block below and over the State street bridge into North State street. The latter may be useful for reaching certain North Side points, but it is not in line with our present purpose.

Finishing Rush street bridge, go out in front of the passenger and freight entrances to the Barry Line docks, and keep on for

four blocks of stone pavement, to the corner of Ohio street. Here turn one block right on Ohio street to Lincoln Park boulevard, then north (left turn) again. For a distance this improvised boulevard is nothing more than a common street, paved with asphalt and kept in fair shape for riding; but after passing between the water tower and the pumping station of the North Side water works (at Chicago avenue), it becomes both wider and better, leading shortly into Lake Shore drive. Some of the finest residences in the city (including the Potter Palmer mansion-castle) line the left side of the drive, and on the right a long, white seawall keeps back the waters. After a few blocks the drive comes into Lincoln Park at a point where (to the right) a number of mortars surround a large mounted gun, taken from the Spanish battleship *Marie Theresa* at Santiago, July 3, 1898.

At this point a choice of two routes through the first half of the park is offered. By turning slightly to the right you come out upon the road which continues close to the water-line for a short distance and then turns back into the main park thoroughfare again. The path of the steamers to and from Milwaukee and the nearer Wisconsin shore is not far out, and various water-craft are likely to be in sight. Otherwise, keep straight ahead as you enter Lincoln Park from the Lake Shore drive, and go up past the Grant monument—the latter a frequent point of rendezvous for touring parties.

The Lincoln monument is not in sight in either event, being over to the left in front of the Dearborn avenue entrance. To reach it, make a broad bend to the left (from the group of mortars as you enter the park) and run up alongside. When ready to leave, keep to the same road by which you entered, but bending all the while to the right, coming out by the bandstand and in front of the Grant monument.

Leaving the Grant monument, by the main road alongside to the right, Lincoln Park is soon finished, and one is carried across Diversey avenue (north boundary of the park) into Lake View avenue. For a considerable distance now, the latter is separated from the lake only by the width of a long wooden pier, built for the convenience of sightseers and fishermen. Where Lake View avenue comes abruptly to an end, the Sheridan road—a square turn to the right—modestly begins. Take this and keep straight ahead until a half block beyond the Northwestern Elevated tracks. Here make another square turn—this time to the right—



pass the Sheridan station of the elevated railroad, which may be said to mark the beginning of the Sheridan road proper.

One's course is now determined in a general way to Fort Sheridan, twenty-eight miles from Chicago, and in the main it is direct. Below Evanston, the necessary turns and bends are caused entirely by the shape of the lake shore and the layout of large property tracts, and are thus easily followed. Going through Evanston, the identity of the road is for a while lost, only to be found shortly above. No special lookout is required until one comes into a cross-way, plainly marked "Stockham Place." Here the way ahead is blocked and the right turn is seen to lead down and end at the shore. Turn left on Stockham place one block, then right onto Forest avenue—a thoroughfare of palatial homes and perfectly kept lawns—which keep to the crossing at right angles of Davis street. If desired to go up into Evanston, take Davis street direct to the center of the city, to the railroad stations and other places of interest. Meanwhile the intervening towns of Edgewater and Rogers Park have been passed, scarcely knowing it.

#### THE EVANSTON-KENOSHA-RACINE PORTION.

If not intending to stop at Evanston, bend a trifle to the right (on Forest avenue at Davis street) onto Forest place, which brings up alongside a little lake front park. The signs at the near corner are apt to confuse, as they seem to direct to the left (uptown) for the continuation of the Sheridan road. Not so, but keep the roadway between the lake and the park, a block or so to Fish Hall of the Northwestern University. Here turn left, so as to get a clear way north, and continue alongside the campus and other buildings to the Evanston city limits. The Sheridan road is now re-established. The original intention was to put it through Evanston without a break, but lack of co-operation on the part of certain large property holders prevented; and now it seems unlikely ever to be accomplished.

Still close to the lake, taking in a superb horseshoe curve formed by the shore, past the grounds of the Wilmette Country Club and opposite Winnetka (a mile from the town and station), the section loses its strictly level character. Ravinia, a railroad point just above Winnetka, takes its name no doubt from the ravines that run down the shore and are crossed by the Sheridan road over substantial wooden bridges, all, however, with the usual warning against speed. Coming into Highland Park, the route runs into the

center of the town, alongside the railroad tracks, past the Northwestern Military Academy, to the depot. Take the first right beyond the depot, then first left, keeping same to Fort Sheridan, turning left again at the Mess Hall and up past the barracks. When the way ahead is blocked by the guardhouse immediately in front, turn right and go out of the fort grounds, over the railroad tracks, into the highway.

This point marks a decided change in the character of the run. So far from Lake View, Chicago, it has been from fair to good macadam, mostly level and kept absolutely free from traffic. Only for a short distance at Highland Park have trolley tracks been alongside, and here they are no hindrance to pleasure riding. At times, from beginning to end, speed exercised with caution and good judgment is safe and reasonable. A return trip from here to Chicago makes a round trip of about 56 miles—a short and easy, as well as an interesting journey. The rest of the way to Milwaukee is more of an ordinary country road, sometimes good, at other times bad, but all of it passable for stanch touring vehicles.

From the Fort Sheridan grounds, keep the street car tracks until the depot is passed. Here the cars and one road lead off to the right for a short cut to Lake Forest. But it is a hard matter to get an automobile over it except in the best of weather. Instead, go up and out from the depot, around by the Onwentsia Country Club, coming into Lake Forest at right angles with the railroad tracks. Cross the tracks and swing up alongside for a fair to good run through Lake Bluff and North Chicago to Waukegan, entering the latter by a large viaduct into Genesee street, the principal thoroughfare in the city. At the main cross street, Washington, turn right one block (toward the Northwestern depot), then first left, State street, direct through "Zion City" into Kenosha. Entering Kenosha, the road leads over the railroad tracks and on to where a brick pavement crosses at right angles. Turn right and follow Prairie avenue to the small city park. Go along two sides of the park, then diagonally ahead into the principal street of the city.

Leaving Kenosha, continue on Main street to the bridge, where bend slightly to the right into a short street which carries over into Milwaukee avenue, toward Racine. The road is sandy, with here and there a stretch of gravel, or at times a light black soil difficult to get over. But the way is easy to follow, being nearly all the time along the interurban electric line and the Northwestern

tracks. Coming into Racine, however, the way is not so clear. The main road's course is finally broken into two right angles—being different ways into the city. Turn left and go down to the lake, without regard to where the trolley tracks turn off. Keep along the lake to the Racine college grounds, from which locality Wisconsin street is direct, but not so good as College street, the next one to it on the left. Keep College street all the way downtown, finally by a short right turn, on Sixth avenue, into the open square in front of the Hotel Racine.

#### THE RACINE-MILWAUKEE PORTION.

Go down past the Hotel Racine on Main street for a few blocks until the electric street cars turn off to the left (straight ahead bringing up shortly to lumber yards and docks). Turn left, State street, cross the bridge over the railroad tracks and river, taking the first clear right—Douglas avenue, unmarked by sign. The electric cars likewise turn up Douglas avenue, which is followed until merged with Milwaukee avenue, direct to South Milwaukee, the latter entered by crossing under the Northwestern tracks, up into the town a short distance east of the station.

Keep north with the street cars also past the packing plant of the Cudahy Brothers Company, and through the town of Cudahy. Be sure, however, to keep straight ahead where the cars turn off, first for the Cudahy depot and then for an entrance of their own into the city; otherwise there is trouble in store. The road straight ahead comes closer and closer to the lake shore, with fine views of the horseshoe harbor. The outlook is particularly fine from the St. Francis Asylum and Academy grounds. Passing this group of buildings (to the left), the street signs indicate that Milwaukee is being approached by Superior street, which keep until it brings to Bay View station of the Northwestern Railroad. This is a bad grade crossing and calls for care, as the traffic (especially freight and switching), is not only heavy but almost constant. Once over, turn right alongside the tracks (Bay street), which follow, notwithstanding its irregularities, until it brings into Kinnickinnic avenue.

Turn right on Kinnickinnic avenue which, with Clinton street, is one thoroughfare (some asphalt but more stone pavement) to the river, through the heavy manufacturing section of the city. There is no bridge at the foot of Clinton street, but a right turn for one block along the river will bring up to the bridge crossing to East Water street, which take. This street passes through the



old wholesale district to Wisconsin street which, with Grand avenue, forms one and the principal thoroughfare (broken only by a bridge), across Milwaukee from the lake front to the farther suburbs. The road distances from Chicago are, approximately, as follows: Fort Sheridan, 28 miles; Waukegan, 40 miles; Kenosha, 56 miles; Racine, 66 miles; Milwaukee, 90 miles.

The suburban aspect, lost at Fort Sheridan, is not regained on the trip until Milwaukee is finally entered. Kenosha and Racine are well-situated and attractive small cities, but both are spread out over large areas; and as soon as you leave them you are again in the open country. And fine country it is, large farms and substantial buildings, with the stamp of thoroughgoing prosperity over all. Scarcely is the blue of Lake Michigan entirely absent. Freshness and rural beauty are side by side with the hum of industry and the swift movement of commerce. It is a section, withal, that none need be ashamed to call home.

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### Premonitory Symptoms of a Flop

"Bosh! Don't tell me that driving an automobile requires brain work," exclaimed old Billion. "Any fool can set up on a seat and twist one of those wheels around which ever way he wants the blamed thing to go."

"Dear me, Cyrus," said Mrs. Billion, who from long experience knew the symptoms, "are you getting the craze, too, after all you've said against them?"



## On and Off the Milwaukee Line

**I**T will be understood, of course, that the Michigan avenue-Rush street-Lincoln boulevard line is not the only way out of Chicago to Lincoln Park and the North Shore. However, as this course is the most direct and best suited of all for the Milwaukee run, starting from Chicago Automobile Clubhouse on the lake front, confusion is not invited by attempting to list secondary possibilities in the touring story. The latter are chiefly interesting when one has ample time to make optional or additional trips of them.

Of the other outlets in the same direction, one is of special note. Dearborn avenue is a direct and splendidly paved thoroughfare from the river to Lincoln Park. Starting from the Dearborn street business district or nearby downtown, it is as easy to take the several blocks of stone pavement to the bridge leading across to Dearborn avenue as it is to reach the Rush street bridge from lower Michigan avenue. In doing this one comes into Lincoln Park immediately in front of the Lincoln monument, and has only to bend right to reach the Grant monument and the main thoroughfare road running alongside.

This optional beginning of the North Shore trip is easily reversed, which prompts the suggestion that an up-trip to or beyond Lincoln Park, as given in the tour in this issue, returning by the Lincoln monument and Dearborn avenue to the river, over into Dearborn street, or vice versa, may be worth the time of the visitor. In this case the meeting and parting of the park ways will be at the Grant monument. Having once found out the various routes that center at this important point, the entire park becomes easy to master from the road-user's standpoint, and the different ways of going in and out of it will come into mind.

The course selected for the 100-miles Endurance Run of the Chicago Automobile Club was over the course of the Milwaukee tour for the forty miles or so which separate Chicago and Waukegan. The only difference was that the tour read up and that (the concluding) portion of the Endurance Run read down. This particular section is not only the best of the one hundred miles, but also the finest stretch of continuous roadway in the Chicago district. The remainder of the century run was made up of an outer and longer course to Waukegan, starting west from the C. A. C. clubhouse, via Jackson and Washington boulevards, to Austin and Oak Park, thence to a crossing over the Des Plaines River beyond.

This river it followed north through Des Plaines to Wheeling and Libertyville. From the latter point there is a slight easterly bend and finally a due east course to Waukegan, entering the city by Washington street uptown, or else coming into the shore road near the large viaduct immediately below.

One who wishes to add a few miles in order to make his run to Milwaukee a full century might take the longer Wheeling-Libertyville course to Waukegan, and from that point the route as given in the touring story. This would make a combination inland-and-shore route instead of all the way along the shore, though with the longer distance would come a few stretches of clay and sand better suited for an endurance test than for a pleasure excursion. Again, selecting one's own time and pace, a fine run over the regular 100-miles Endurance Course can be made. These optional ways are in fact quite too numerous to be included in a single article. When desired, additional information will be sought out for subscribers by our correspondence and information departments.

The Sheridan road, though apparently halted at Fort Sheridan, is very probably to have a future beyond the anticipations of those who ride over it to-day. There is no good reason why its main line should not be extended ultimately through to Milwaukee, sending branches into Southern Wisconsin, particularly to Lake Geneva and its environs. There are no physical obstacles in the way, for the section above Evanston can scarcely be called thickly settled, and the material benefits to abutting and adjoining property would be enormous.





There is already a natural way between the city of Waukegan and the lake, and the main street through Kenosha could easily be used to carry the road over and beyond. Some new and original construction would be necessary for the entrance into and exit from Racine—this being the one perplexing portion of the Chicago-Milwaukee route to-day. Once out of Racine, the way is open for the continuation of the Sheridan road into Milwaukee, on good foundations already laid. It seems to be an exceptional opportunity for the automobilists of the two interested States, and non-residents would watch the outcome with concern. It would then become the "Great" Sheridan road, as some say even to-day. Admitting this to be so, it is but an initial mark on what the future should fully realize.

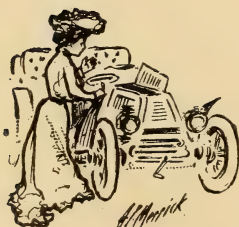
### The Spark That Failed

*There once was a fair chauffeuse*



*Whom a false spark had thrown into blues;*

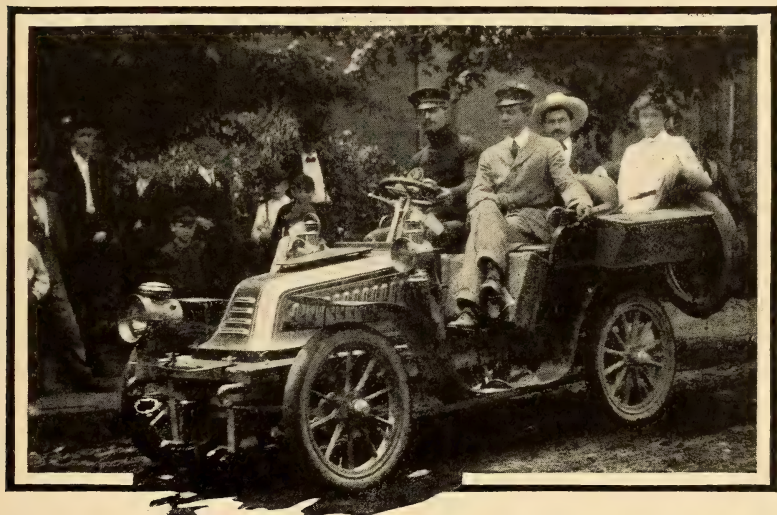
*So she started down hill,  
at a pace meant to kill,*



*When a lost spark gave time  
for new views.*

## Over Mountains to Wheeling

**W**HEN W. M. Vance purchased the 1,600 pound 12 horse power Darracq here shown, and announced he intended to drive his new purchase to his home in Wheeling, W. Va., people who knew the mountains and the roads which would have to be traveled over, laughed. Mr. Vance was not deterred by this, and accompanied by L. O. Getchell started on what the wiseacres all agreed was a foolhardy trip. Once more the know-italls were mistaken; in eight days of leisurely traveling Mr. Vance rolled into Wheeling with both the vehicle and himself none the



worse for the journey they had taken. There was not a breakdown during the entire trip, and despite the terrible condition of the mountain roads the tires escaped from serious injury of any kind. One scarcely knows who to congratulate the most upon the successful accomplishment of such a demonstration of the automobile's ability—the man who makes the journey or the man who makes the vehicle. Certainly automobiling is a debtor to both.

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### The Scorchers' Creed

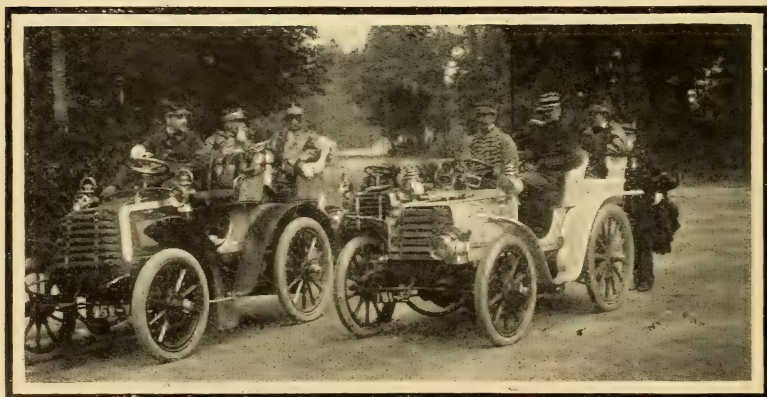
Count that day lost  
Whose low descending sun  
Views no poor wretch  
O'er whom thou hast run.

## From Gas Mantels to Storage Batteries

It cannot be said of Doctor Auer Von Welsbach that he is of that class of inventors whose performances are so very much less than their promises. Wherever gas is burned the name of Prof. Von Welsbach is known, he having invented the famous mantel which has done so much for the burner of gas. Passing from gas to its successor, electricity, Doctor Welsbach has now come forward with a new storage battery for which he claims greater capacity and a higher voltage than any battery now used.

In the Welsbach battery each cell consists of a plate of zinc and a plate of carbon, the latter being placed at the top of the cell and made from a sheet of elastic graphitized fabric, the whole being used in connection with a ceric sulphate solution, which, during the charging of the cell, is reduced to cerous sulphate. While discharge takes place the action is reversed.

An arched diaphragm of parchment or porous clay is used which prevents any of the carbon particles from falling upon the zinc plate and thus setting up destructive local action. Doctor Welsbach believes that his cell is best adapted for use where the discharge immediately follows the charging. An unfortunate feature of the cell where its use for other than automobile purposes is concerned is that it requires constant stirring or agitation. Where used for motor vehicle work the jarring and vibrations of the vehicle are sufficient, but for stationary batteries it is necessary to provide mechanical agitation of the solution to make it effective.





## Equine vs. Equity

DUGALD McKILLOP



**N**OWADAYS if a runaway horse does some damage the matter is overlooked by the public. If, on the other hand, a motor vehicle causes trouble, what a wave of indignation follows! How shall the scales of justice be balanced?

It is said that if a horse but knew his own strength he could successfully resist all efforts of man to use and control him; and many

people are ready to affirm that the horse does at times relapse from his chronic state of enforced docility and attempts to regain his primitive freedom. "What has got into them?"—or some such sentiment—is a frequent remark in regard to even time-honored and faithful horses who, in an unseemly moment, break all the rules of their lives (and incidentally the harness) in some freak effort.

We are but emerging from an era of animalized traffic. The steed which in centuries of war and in peace has subserved the interests of the civilized (or at least of the conquering) nations, has "won his spurs" as a timely motor. Excelled in sagacity by many other animals, the horse has so endeared himself by his usefulness and friendly association in pulling and running, that he has long occupied a safe and certain niche of honor all his own. His excellence in action, speed, endurance, availability, domesticity and wonderful instinct are all factors that cause mankind to respect the horse; although probably the physical beauty of the animal towers above all other reasons in determining his place in public esteem. Many people love a horse, not so much for what he does as for what he is.

The horse as a motive power is being supplanted by the automobile, and we are on the threshold of a tremendously rapid transition period. As opposed to the mechanical motor, the alleged rights of the horse will be stubbornly upheld by his numerous drivers, admirers and other interested parties. Though public opinion leans toward the veteran method, around which associa-

tion has so long clung, an equitable adjustment of respective rights will come all in good time.

The action of street gamins in stoning automobiles and automobilists, seems to be at heart a protest against the idea of a mechanical device superseding animal power. With the urchin it is not a feeling of the horse against the field, but rather of anything to down the machine. In proof whereof, let a trained and docile Jersey cow be attached to a dog cart and driven through the streets of New York, and while it may well be that the amusement of the multitude will rise in an embarrassing wave, yet if a horse should shy at the cow no one would think of annihilation as a fitting fate for the bovine.

Or should some wag procure a strong bird from one of the summer "Ostrich Farms" of the North, harness the same to a buggy and drive through one of our city streets, many horses might take fright. No one, of course, should blame a horse for snorting at such an unwonted combination as an operating ostrich motor, or would the animal be held culpable for running away in such a case. The horse owner and the public, however, would take no such view, and the former would berate Dobbin for his foolishness, and perhaps chastise the favorite for his brainless lack of discrimination; for surely the forbears of the horse, in some desert wild, mayhap, had seen such high-toned creatures. As for the big bird, he, too, may have acted in an uncanny fashion and run *fowl* of various vehicles and things, after the manner of his kind; but these lapses of road manners on the part of him of the long neck and pathetic eye would be promptly overlooked by a generous public, as they would be by the connoisseur gamin, to whom a circus animal parade, even in detachments, is ever dear.

In equity, it would appear that a puffing motor-cycle or automobile should be as readily forgiven for attracting attention as a panting ostrich or a Texas steer; but the education of the public is slowly evolutionary, and the surely coming time seems yet far off when the bringing inside the limits of any well-governed city of outwardly-beautiful but filth-laden horses, will be not only the menace to human health that it is to-day, but as such a menace which will be legislated against to such an extent as will result in the withdrawal of the now proud possessor of the heart of the public, and of the right of way on our highways, into that comparative obscurity which may be considered his proper place in a really progressive age.

## As the Seasons Come and Go

MINNIE HOOVER-MACKENZIE.

When the robin woos his sweetheart, and the swallows poise and swing;  
When the butterflies and honeybees glance by on gauzy wing;  
When the fields smile back the beauty that the golden sunbeams fling;  
And the air is liquid music where the joyous wood-birds sing;  
When the thrills of life awakened in the hillside echoes ring;  
When the apple-blossoms open, then

an  
    automobile's  
    the  
        thing!

When the shifting lights and shadows chase each other through the land;  
When the rose-leaves fall like blood-drops, by the drifting breezes fanned;  
When the swaying meadow-daisies nod in sleep, a drowsy band;  
When the thoughtful cattle gather where the kindly shade-trees stand;  
When the willow-leaves are trembling like an old man's wrinkled hand;  
When the harvest-fields are golden, then

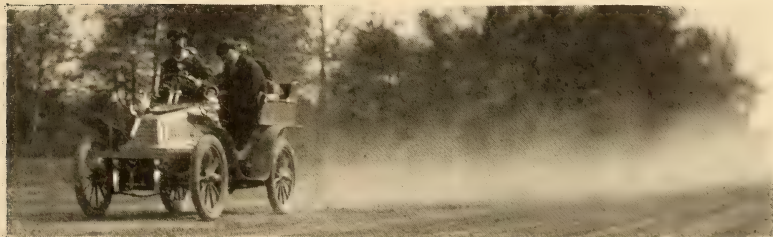
an  
    automobile's  
    just  
        grand!

When the purple grapes laugh juicily from every tangled vine;  
When the golden-rod sways heavily, as drunk with sunlight's wine;  
When as stars the dainty maples in the woodland ball-room shine;  
When the earth, and sky, and sea are filled with beauty half divine;  
When the brown nuts fall in showers, and the cones drop from the pine;  
When the forest leaves are drifting, then

an  
    automobile's  
    just  
        fine!

When the tempest hurls his cloud-ranks down the arches of the sky;  
When the snowflake tears fall silently as from an angel's eye;  
When the tinkle of the sleigh-bells tells that winter sports are nigh;  
When the ice is on the river, and the wind moans drearily;  
When the naked trees are shivering and the blossoms buried lie;  
When the frost is on the pavement, even then

the  
    automobile's  
    not laid  
        by!





# In the Hospital

Being a Story of Three Automobiles and a Repair Man

REGINALD WALES.

**P**SCH-PSCH! Psch-psch-psch! Psch-psch-psch-psch-psch!  
Psch-psch! P-s-ch ps—ch!

"There now," sighed the ill gasolener wearily, "I knew 'twas no use. Some way this doctor of mine doesn't prescribe the remedies that my poor decrepit system craves. He's a miserable diagnostician and a still worse dispenser of cures. The idea! Dissecting my carbureter stomach into a hundred unrecognizable fragments when it's my sparkers that are at fault. Here I am literally torn to pieces, my body cut clear of'n me and cast with precious little ceremony in a dirty corner; lungs 'bout stuffed full of old dusty waste; heart broken by a cruel blow from a monkey wrench; water veins severed, and my dinner tank dabbed and becovered with grease.

"Here this fellow has been a-foolin' and fussin' with me for the past three hours, entertainin' me royally by cussin' most the time like a South Sea pirate. 'Twas only a minute ago he shied a hammer at my gasoline indicator, just because he well nigh smashed his finger while he was a-tryin' to carve me up still more. Served him right, too. But it didn't just happen to strike him that way, for he began dancin' around like a madman, swearin' something awful and sayin' things I couldn't quite catch, but all the time a-feelin' I figured in it and no complimentary way either.

"After he'd finished his stunt, he got a rag 'bout two yards long, which he wrapped 'round the injured finger, then his face got kinder dark again and pretty soon we had the second edition of the jig. Havin' gone thro' that to his satisfaction, he put my intake valve into the vise and began scrapin' away as tho' he'd taken leave of his senses. Between the groans and shrieks of the file I heard him say:

"Fool, wagon, auto, or whatever you are,  
Thro' your damn stubbornness I'll carry a scar.'

"He was poetical, that chap was, and I always felt ever since my acquaintance with 'im began that he'd missed his callin' when he took to dealing out physic to crippled motor carriages. I was——"

The gasolene's lamentable tale was cut short by voices, which at first sounded like a confused murmur, then as their owners drew

nearer and nearer, grew more and more distinct, until the pausing hospital wreck had no difficulty in recognizing what was being said.

"Here, you, Jim!" bawled some member of the party who, judging from the volume of sound emanating from his vocal apparatus, was a man of considerable size: "Now, altogether, everybody!" Then followed a series of grunts indicating great muscular exertion.

The repair man by this time was cognizant of the struggling expedition, and promptly leaving his vexatious work, opened wide the entrance door so the newcomers might have uninterrupted access to the shop.

"I say!" shouted he of the deep voice, "give us a lift, will you?"

The repair man cast a pitying glance at his aching finger, then silently took his place among the toiling crew. After two or three fruitless attempts the ponderous electric was finally pushed up the incline and into the station. Having recovered his spent breath sufficiently, the doctor took occasion to inquire as to what state of health his patient was enjoying. "What's the matter?" roared the owner angrily. "Matter enough. Here I was about to go out for a little ride when she played out—just around the corner," he said, jerking his thumb in what was apparently a very distasteful direction. "I couldn't get the thing over here without help, so I called upon these two fellows." The aides stood looking at him expectantly. There may be something in mental telepathy, for their eloquent glances seemed to awaken the spirit of forgotten promises. "Here, take this," he said, handing each what appeared to be a very handsome sum. The emergency corps departed to enjoy life while the necessary material constituents lasted.

"Now," continued the disappointed owner, addressing the repair man, "you get this machine in shape so that I can use it tomorrow." Then hesitatingly and in a tentative tone, "Don't suppose it would be finished if I stepped in along toward evening?"

"N-o," replied the other, affecting much profoundness of thought over the matter—"n-o, I hard-ly think so."

"Oh, well, I'll call the first thing in the morning," replied the owner; then he was lost in the crowded street.

"Well, now, shiver my clutches," muttered the mutilated gasolener, "that means he's a-goin' to let me slide and make love to that fashionable electric." The gasolener gave a fierce snort over what

he deemed an incomparable insult, but his muffler stifled it until but a heart-rending groan was the only outward sign of its tempestuous feelings. However, the noise, slight as it was, attracted the newcomer's attention, which he saw fit to manifest only in a cold, condescending glance.

"Thou wert ever thus," it said with great affectation of speech.

"And thou wert always a miserable slowpoke!" bellowed the gasolener, dangerously excited over the superiority of the other's bearing. "Don't yer spring any of yer fine words and oratorical frills at me. I—I won't have it!"

"Come, now," said the electric in a soothing voice, "that wasn't exactly a personal remark, but rather meant for your class. You understand me. Not meant for *you*, but for your class," insisted the speaker, seeing his companion was in no humor to take kindly to raillery.

"Class indeed!" exclaimed the gasolener in a modified tone, although there was still a shade of resentment noticeable. "Class indeed! I'd just like to have some one with ordinary common sense compare yer fraternity with mine and see whose account shows the strongest credit. In the first place yer got an incurable case of progressive, pernicious dyspepsia. Yer food don't set well on yer leaky stomach. What's the result of the disease? Yer go dead 'bout onct a day, takin' it on the average, and the undertaker's called to clean ye up and get ye ready fur a decent burial. He sez a few pretty words and as a partin' shot squirts a little embalmin' fluid inter yer veins, and behold—ye stretch out yer lifeless limbs sort of lazy like, and as you git more and more of the stuff pumped inter ye, ye git more and more life inter yer corpse-like carcass until ye finally really do awake and plead for another thirty-mile run, after which yer perfectly willin' and ready ter go thro' the entire performance ag'in."

"Really now," said the electric, vainly trying to choke back its rising rage under the other's free criticism, "I owe you much for the trouble you have given yourself to point out my weaknesses. May I ask without your flying into a childish rage whether your own excellent anatomy allows any such germ as failure to lurk within its intricate organism? What say you about your ignition faults? I sincerely trust the foolish belief hasn't crept into your thoughtful head that the gasolene idea embraces all that constitutes perfection and ideality in an anti-animal conveyance. If you use a dynamo to furnish your life's spark, then your poor mas-



ter has a heap of trouble to contend with. If you use a battery, then he has even a bigger heap to get buried under. The dynamo is everlastingly short-circuiting whenever you take it out in a little April shower, or, if you happen to be feeling particularly well and want to indulge in a little extra speed, the jar and vibration which you are wont to create is a grave menace to its delicate organism. Dust and dirt play havoc with it. The brushes must always be kept in the same condition of nicety or you'll be placed at a most serious disadvantage. Now just consider the chances you run with your batteries. First, it's series depreciation, then individual depreciation, then a broken sustaining rod. Next comes incrustation of the binding posts, and, if you work too hard, premature exhaustion. Then again, if you're disposed to be lazy, have little or nothing to do, local action attacks them and leaves a pitiful wreck just by the way of a memorial of its visit. The sooner you disabuse your mind of being absolutely perfect and pedestaled upon a higher mechanical basis than am I, that much quicker will you cease making a spectacle of yourself."

During this exchange of courtesies the shop doctor had been toiling diligently over the new patient, a perplexed frown knitting his brow. "I swear," he muttered disconsolately to himself, "if I know what's wrong here."

Once more came the sound of confused voices in the rear of the depository. With a painful intake of breath, and casting a deprecating glance at his wounded finger, the doctor untied himself from the knot into which he had found it necessary to twist himself while working prostrate beneath the machine, and arising, opened the door in response to the harsh demand for admittance. "At any rate," he mumbled as he made ready to lend a hand, "if I don't make a go of this business I can join a circus and do the contortion act. I'm a wonder along that line."

The last arrival enjoyed a smaller suite of honor than did his predecessor, but irritability of its owner's temperament was no less manifestly potent, nor did his disgust border less on the vehement than that of the electric's owner who had preceded him. His charge, a steamer, seemed in no immediate need of the restraining hand placed upon the dash.

"Something's wrong with the burner," quoth the ireful owner in no gentle voice, "but just what is it I can't make out to save me. Some way she can't make her steam," he concluded in a thoughtful tone. The repair doctor began peeping at the impaired

portion, wondering, at the same time, if with this he would ultimately reap more success than had his efforts elicited on the other two patients.

"Oh, yes, I see," he finally managed to ejaculate, although in reality he saw nothing and did not mean to have the new comer to interpret it in the literal sense which he did.

"I thought you'd have no difficulty in recognizing the fault," he said, apparently vastly relieved. "I must have this machine tomorrow morning, sure. Important business. Can't get along without it no way. Necessity demands it. You'll not fail me?" he concluded, glaring ominously at the meditative doctor.

"Oh, no—no, of course not," answered he of the repair profession, abstractively, and before he could sufficiently rouse himself from the lethargy to correct the statement the steamer's owner had gone the way of the others.

Gathering up the scattered tools which lay beneath the electric the doctor now set to work desperately upon the crippled steamer.

The gasolener and the electric, meanwhile, cast one look in the direction of the newcomer, then burst out in uncontrollable peals of laughter. "Well, now I du declare!" roared the gasolene one. "Even our friend foggy's got a spell of rheumatics. By the looks of ye, I should say ye'd bin a drinkin' pretty hard of late. Eh, what sez ye to thet? I say, electric, just cast yer meters at his eyes, will ye? They're so crossed he can't see his own tanks."

"That's it exactly," answered the other in high delight. Then in an undertone to his companion: "Let's chastise him in a good old-fashioned way." "Agreed," replied the gasolener with a satisfied wag of his ungainly head and a diabolical twinkle of eye.

"I say, steamy," he began in a bantering tone, "a word with ye."

"Well, what d'ye want?" growled he of the boiler.

"Only this," went on the fearless spokesman, "Did yer checks ever get stuck in yer throat and starve yer stomach until it ate a hole in itself?" More uproarious laughter on the part of the two conspirators. "Does the flame in your cook stove ever blow out and stop the procession?" This last was considered a huge joke and the gasolener and his companion, the electric one, lost no time in exhibiting their appreciation in noisy guffaws. "And I say, foggy," continued the petrol, after their mirth had subsided somewhat, "don't yer 360 veins get clogged up so yer poor sickly body can't get the nourishment it requires?"

"And why is it," chimed in the electric, "that your stomach is everlastingly gathering a distressing accumulation of lime? Why, I venture to say that at this very moment you're suffering from an over-dose of the stuff. It's quite enough to do up a stronger fellow than you ever dare to be."

"Then look at your——." "Ha ha, he he, he he, ha ha," again roared the two in unison, winking slyly at each other in mutual understanding of the fine onslaught being made upon the enemy's virtues.

All during the colloquy the repair man had been assiduously pounding away at the steamer's burner. At this juncture a drop of ominous looking grease for an instant trembled dangerously above his eye, but he, not observing its delicate position, hammered away, delightfully unconscious of the impending danger. Shortly there echoed throughout the room the sound of a dull splash, followed immediately by a lusty yell of consternation and rage. A sharp struggle ensued, in which the head and feet lost their individuality and became a mass of startling activity. The battle was decisive, but short, and the extricated doctor lost no time in making a wild dash for a questionable looking water pail. Here for a time we must leave him, trusting that from the soothing liquid he may find allayment to the pain.

The steamer, chaffed, and smarting from the blows the others had dealt, took up the cudgel and gave answer:

"Oh, you fellows may think yer mighty cute an' all that, but I'm right here to tell ye that yer not so much h'after h'all, neither h'of ye—d'ye understand? What h'am I a-lookin' h'at, h'anyway? A big, clumsy electric, not fit for higzistance, and a noisy, cumbersome gasolener, h'an h'outcast h'an' a disgrace. You," he continued, after nodding his head fiercely at the former, "you can't travel h'over five h'an' twenty miles before ye begin ter groan 'bout the tiredness h'in yer limbs, h'an' h'if yer master tries ter force ye 'long, ye play h'out h'altogether h'on 'im h'an' show yer colors by h'dyin' h'any h'old place yer kin fin' 'long the road."

"That's all true," chuckled the gasolener, who, albeit the assailed had been his colleague against the newcomer, could not suppress his secret rejoicing over the chastisement.

"Shut up, you miserable production!" howled the electric hotly at the gasolener. "You're an ugly, dingy wretch and I'm ashamed to be seen in company with such a scapegrace."

"O, ye are, are ye?" roared he with face all aflame with con-



suming rage. "Shiver my clutches if yer not the biggest mistake I ever clapped eyes on."

"Now look a'here," bawled the steamer, with anger rising dangerously near the boiling point over the cutting remarks the electric had hurled at it regarding its assimilative organ, "yer got the blasted h'idea, 'aven't ye, that yer 'bove me just 'cause yer 'appen ter be more popular wi' the women folks. But h'I a-want yer ter h'understan' that h'I'm h'a sight more speedier than ye, h'an' there'll come h'a day when fellers o' yer class 'ill be h'as scarce h'as snow-balls h'in summer."

"Never, never!" yelled the electric. "You'll never see the day when you or your kind can oust me. I'm liked because I'm gentle, easily handled, clean of habits and a good companion. As for you, you are altogether too complicated, too excitable, too bothersome, to ever become a favorite with pleasure-loving people."

"Bah! yer both of ye worthless old scrap piles," observed the gasolener, with outraged feelings manifest in his voice. "When it comes to touring who is ther' ter look to but me? Who devours less food? Who's got the best wind but me? Who gets right down to hard, faithful service but me? Ye, electric, ye'd struggle 'long twenty miles or so, then git a stroke of apoplexy. And ye, foggy, ye'd find it powerful hard to go that far without a turnin' in somewhere an' fillin' yer stomach brimmin' full."

"How h'often does yer sparkers go wrong?" sneeringly asked the steamer.

"And how often does your carbureter play out?" bellowed the maddened electric.

The quarrel had now assumed serious proportions, for all three machines were foam-flecked, fiery of eye and in a towering passion; thus was the intervention of the repair man both fortunate and opportune. Ere he had succeeded in removing the painful quality from his eye and had once more dressed his crushed and aching fingers, the shades of night were fast falling, rendering further work on the three cripples impossible.

Therefore, with a distressed groan, he wearily straightened things around preparatory to closing the establishment. It was at this point he briefly put an end to the tempestuous battle by casting covers over each of the wordy warriors. Through the soothing influence of the covers the trio were soon in automobile dreamland. Then with a troubled glance at the untouched vehicles, the man

who was to have repaired them closed the door and sought the solace of his home.

There is little more left to tell. At noon the next day passers-by were attracted by some crape attached to the door knob fluttering idly in the fitful breezes. A placard, rudely printed and bearing this inscription was pasted inside the glass door and told eloquently of the end of an unhappy episode:

*Claimants against the deceased need  
not trouble themselves to present  
their accounts as we, the under-  
signed, have, in lieu of broken  
promises taken all in sight*

*Tom Wilkey Colver  
Tom Scamper Teltman  
Count Shagamu Toner*

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### Song of the Automobile

This is the joy, beyond Aladdin's dreaming,  
The magic wheel upon whose hub is wound  
All roads, although they reach the world around—  
O'er western plains or Orient deserts gleaming.

This is the skein from which each day unravels  
Such new delights, such witching flights, such joys  
Of bounding blood, of glad escape from noise—  
Such ventures, beggaring old Crusoe's travels!

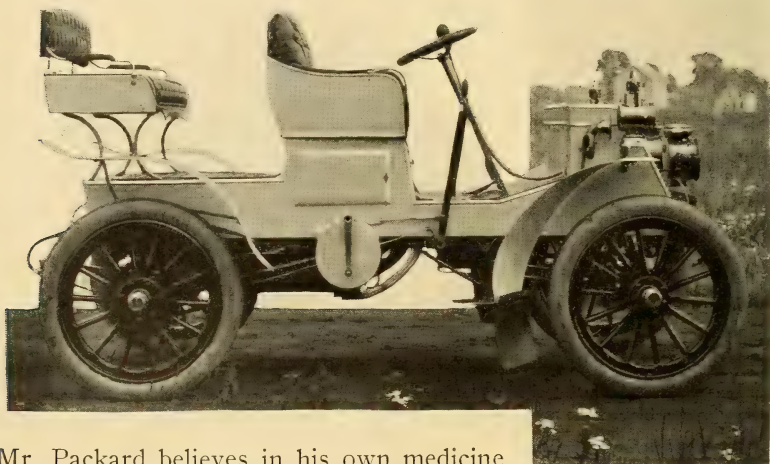
It is as if some mighty necromancer,  
At king's command, to please his lady's whim,  
Instilled such virtue in a rubbered rim,  
And brought it forth as his triumphant answer.

For wheresoe'er its shining spokes are fleeting,  
Fair benefits spring upward from its tread,  
And eyes grow bright, and cheeks all rosy red,  
Responsive to the heart's estatic beating.

Thus Youth and Age, alike in healthful feeling,  
And Man and Maid, who find their paths are one,  
Crown this rare product of our century's "run,"  
And sing the health, the joy of automobiling.

## President Packard's Private Touring Car

**D**OCTORS are not over fond of taking their own medicine. This disinclination to take for their own benefit the stuff they prescribe for others has always cast considerable doubt upon the efficacy of drugs. When it comes to prescribing automobiling as a promoter of health, the faith of the doctor in the prescription is always proven by his willingness to take allopathic doses upon a homeopathic schedule of frequent repetitions. As president of the Ohio Automobile Company, Mr. J. W. Packard has found it advisable to prescribe the automobile as a cure for numerous ills with which traffic and humanity are the sufferers.



Mr. Packard believes in his own medicine and he takes it himself in big doses just as frequently as a big business will let him. The vehicle herewith is a 12 H. P. touring car Mr. Packard has just had built for himself at the Warren, Ohio, works of the Ohio Automobile Co. The arrangement of the seats is somewhat at variance with accepted American ideas, though advanced builders abroad have greatly favored this seat plan of late.

The peculiar design of this vehicle lends itself particularly to the requirements of touring, for a strong brass railing takes the place of the easily detached rear seat, and a very large amount of baggage can then be safely carried on the flat rear end. A new departure is the adoption after a long series of tests of 2-inch hollow steel axles running on bearings, consisting of  $\frac{3}{8}$ -inch steel



balls. Each axle has a 1-inch hole running through its entire length. Eight of the principal bearings are oiled automatically by a pump which, while being operated by the engine, always feeds in proportion to the engine's speed and stops with the engine. The gears are contained in an aluminum case and run in a bath of heavy oil. Jump spark ignition is used with the timing of the spark under the control of a centrifugal governor. This causes the ignition to occur earlier with each increase in engine speed, and accounts for the great rapidity with which the engine will go from minimum to its maximum speed (850 R. P. M.).

## The Story of Number 134

NED WILLSON



THE Chief Prevaricator and erstwhile proprietor of the Excelsior Automobile Agency sat with his feet on his desk watching a smoke ring twist its way toward the ceiling. His two-for-a-quarter perfecto was about half burned away and his face bore a look of contentment, the combined effect of the cigar and a day dream floating in the hazy atmosphere. He had just succeeded, after much diplomacy, in securing the State agency of the famous "Ever-ready - you-push-the-button-it-goes-itself" automobile. A week spent at the factory had satiated his narrow brain with many details of the new art and its accompanying language until he now thought, spoke and dreamed in automobilish.

His first machine (factory number 134), had arrived that morning and was now installed in the storeroom. Gazing fondly at its bright varnish and polished nickel he eagerly convinced himself that with a profit of 25 per cent. he had but to sell a \$1,200 machine each week to soon amass a competence. His advertisements in the morning papers were spread before him and as he gazed at them he flattered himself that his office would soon be the Mecca for the would-be automobilist. It was now already 10 A. M., and about time for the arrival of visitors. "Oh, what a pleasure," he mused, "it would

be to send an order to the factory by to-night's mail. Possibly the order would be in time to catch the 3.45. Perhaps—let's see, there's a mail at 1.15, and——"

"Excuse me, sir, is this the agency of the Ever-ready and so forth automobile?"

The Chief Prevaricator came to with a start and a smile. "Yes-siree. What can I do for you?"

"Kind o' thought I'd like to see one of your machines if you are not too busy," replied the caller, a tall, spare man in a top hat and sack coat. "Just had a little strike in oil up my way and as I have been hankering after one of these machines for some time I thought I'd invest if I found one to suit."

"Well, sir, you couldn't have come to a better place, as I have surely got one of the best machines ever put on the market. It's never been in a race but what it took first prize," (the machine had never been in a race) "and as for steady going, once you get it started it don't stop."

"Well, I would like to get a machine that would stop when I wanted it to," said the visitor.

"Why, of course, I mean it won't stop till you want it to. Here, I'll show you how she works," and the C. P. jumped lightly into the driver's seat, encircled the steering post, and catching hold of the wheel with both hands, worked it back and forth. "See, this is the way you steer. Now, when you want to start you turn this handle half way round and that throws on your gasoline, then you throw this switch and that turns on your electricity, then you open this valve, that cuts out your compression, then you pull his lever, that cuts down your spark, then you push this rod with your foot, and that starts your engine. Then you are ready to go."

"Well, I want to know," said he of the top hat. "Kind o' looks to me as if you'd be tired enough to stay to home when you get all that done."

"Oh, no," answered the C. P., "it takes but a moment when you get onto it, and that is the way you start all gasoline engines. Now your engine is started you keep the spark held back until you want to start the carriage, then you throw it slowly forward and taking hold of this lever throw in your low gear, then you take hold of this lever and throw in your clutch and advancing your spark at the same time——"

"Say, pardner, how many more handles you got on this thing-umbob? I never learned how to play, and this wagon reminds me

of a twenty-stop organ. What in the dickens is a fellow going to do if he gets out on the road and forgets which handle to pull?"

"Oh, it's not so bad," was the rejoinder, "we haven't got near the levers on this machine they have on others; it is really simple as A, B, C, when you get onto it. Just let me take you out on the road a few times and you can run it as well as I."

"Well, I hope so. S'pose you start her up and let's see how she works. I'd certainly like to learn to run one. I guess after all it's nothing when you get used to it."

"Sure, any yap—beg your pardon—any one, no matter how inexperienced, can learn all about it in a very short time. It doesn't take nearly the knowledge of machinery that some people think. Why, do you know I started in in the morning and by afternoon I was running the machine all over town without any trouble at all." (It might be well to state that "all over town" included sidewalks and several front yards as well.) "The people at the factory said they weren't surprised at all, though. They said nearly every beginner did as well as I did."

"Now you see when I showed you how to start the engine from the seat, I had to push on the pedal. That works very nicely when the engine is warmed up, but when I am starting with a cold engine I have to use this starting crank and give her a few turns after the valve and spark is adjusted." And after fumbling around with the switch and the vaporizer he placed the crank upon the shaft of the engine and started to turn. Securing two or three explosions, he jumped around into the driver's seat to change the spark adjuster, but before he got there the explosions ceased. Another attempt gave the same result and the temperature of his face began to rise.

"Guess the battery must be weak," he remarked; "this machine just came in this morning and somebody has probably thrown the switch during shipment. Now you see if anything of this kind has happened all you have got to do is to unscrew this plug and watch the spark with it outside the cylinder. You see, you hold it here and then throw this—ouch! oh, Lord! gosh!"

"What's the matter, burn your finger?"

"Oh, no, just got a little shock, that's all; ought to have known enough not to hold the plug in my hand without it touching the cylinder. Guess I will know better next time."

"Humph! I thought you was an expert," said the oil man.

"Oh, I am expert enough," answered the C. P., "but a fellow



will forget himself sometimes. I guess that spark is all right, though. I'll try her again, just for luck."

Putting the crank on again he turned the engine over for fully two minutes without securing a single explosion. Stopping to catch his breath, a happy thought struck him, and lifting up the front seat he unscrewed the cap from the gasoline tank and took a peek inside. Evidently, he was unaware of the fact that the gasoline tank of an automobile is invariably emptied before shipment, in order to comply with the regulations of the railroads.

"Well, I swan! She's dry as a bone. Seems to me those fellows are awful stingy with their gasoline. Guess I'll have to 'phone for some. Here, Johnny," to the office boy, "trot over to Smith & Jackson's and get me a five-gallon can of gasoline. Now, while we are waiting for the boy, seeing the hood is off, I'll explain the engine to you."

"Never mind, pardner," was the reply. "I have seen enough cranks and sparks and vaporizers with other wheels and things to last me till after dinner. What I want to see now, is how she works. Say, how fast can she run, anyway?"

"Oh, about forty miles an hour. But then, you know you can get any old speed between that and following up a funeral. You see here's the throttle, didn't show you that before, and by working it you can choke her down just as slow as you want to. Then if you want to climb a hill that is too much for your high speed, why you can gear her down and go up just as easy as if you were rolling along on a level. Well, here is the boy with the gasoline; we'll soon get started now."

Filling up the tank gave the C. P. a chance to make a further examination of the adjustments, and to do him credit it must be said that his failure to start the engine before had rather dampened his opinion of himself as an expert and inclined him to be more careful. In fact, he discovered that he had forgotten to fill his oil cups, and made up this omission without attracting the attention of the would-be purchaser. He also determined to be more cautious on the road than he would have been had the engine started off at the first trial. The gasoline tank being filled, another trial set the engine going in three turns of the crank, and with the stranger seated beside him he managed to steer the machine through the door into the street without taking the door off its hinges. He had no inclination to violate the speed ordinance, and in fact he kept

his speed down to nearly four miles an hour until he was clear of the city limits and had a fairly clear country road before him.

"Well, I guess she runs slow, all right enough," remarked the oil man, "now let's see how she can speed up a little bit."

"All right, now watch what I do. You see I throw out the clutch, then change the gear and throw in the clutch again like this," and the C. P. bore down on the clutch lever with all his strength. Immediately there was a whir and the vehicle slowed down and the engine began to race. Closing the throttle he stopped the engine and jumped out to make an examination.

"Something broke?" asked his companion.

"Can't see anything," was the reply. "Guess I will have to disturb you a minute and see what is the matter."

Lifting up the floor of the vehicle he was about to unscrew the cover of the transmission gear when he was accosted by a youngster with, "Hey, Mister, here's your chain."

"Where'd you find that, Johnny?"

"Oh, down the road here a piece."

Sure enough, an examination of the sprockets proved them to be empty. Good fortune favored him, for the makers had had foresight enough to put some repair links in the tool box, and being near a blacksmith's shop he soon had the rivets out of the broken links and the new ones in place.

"Off again, on again," said the oil man, as they finally got under way again, "how often does this thing happen in a day?"

"First time it ever happened to me," answered the C. P., "guess there must have been a flaw in that link."

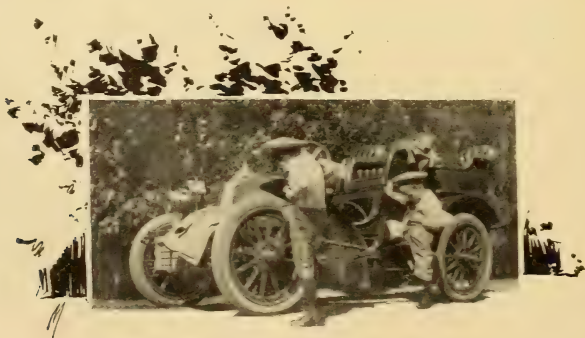
The road on which they were traveling paralleled a trolley line, and they had not gone far after the accident before they were overtaken by a trolley car. Immediately the oil man's sporting blood began to boil.

"Speed her up, Mister!" he almost screamed. "Give her more juice! Don't let that darned lightning bug get the best of us! That's the stuff! Push on the lines!"

Stirred up by this enthusiasm, the operator opened the throttle wide and gave the spark its maximum lead, hanging onto the steering wheel for dear life, and watching the road ahead with an anxious eye and set face. They were on a slight down grade and kept even pace with the trolley car, the oil man shouting with glee: "This is the stuff! This is like going! Bet this is going forty miles an hour. Durned if I ain't going to get one of the things anyway."

But his enthusiasm waned when he saw that the trolley car was slowing up for a switch, and he noticed for the first time that they were on a down grade. Rattling over a bridge at a speed that made the boards beat a tattoo on the sills, they passed up a little rise, and just as they got over the top they saw a dead horse lying across the road, forty feet away. The operator reached for the brake with his foot, but instead he stepped on the clutch pedal, releasing the clutch, and in his excitement could not find the brake. Each moment they were getting nearer the horse, and he gave the steering wheel a sudden turn, but not soon enough. They struck the hind quarters of the horse with the left rear wheel with sufficient force to throw them over a low bank into a shallow creek at the side of the road.

The sudden turn, together with the obstruction and the soft bank of the creek, had all combined to do the work. The machine slid along on two wheels for some little distance before it finally turned over on its side, or rather stopped at an acute angle on the side of the creek with its wheels in mud nearly up to the hub. Two sorry looking individuals dragged themselves from the creek bed and, with shingles from an old house near by, began to scrape off the mud. The top hat was floating serenely down the stream unnoticed by its owner, and some boys fishing on the bank began to shy stones at it, when it was rescued by a passing farmer, who also went to the assistance of the unfortunates. He offered them a ride back to the city, but the operator was determined to stick by his machine, and the oil man thought that if he could get cleaned up enough he would like to take the trolley back. The agent was profuse in his apologies and finally succeeded in assuring the prospective customer that it was simply a piece of tough luck. They finally parted with a promise from the oil man to pay him a visit next day.





## Circuit des Ardennes



**A**N event, which will probably become a favorite one in automobile annuals, took place in the Ardennes district of Belgium on the 31st July. The course, fifty-three miles in length, started from Bastogne near the German frontier and ran for about fifteen and one-half miles to Longier, thence to Habay-la-Neuve for nearly fifteen miles, then twenty-three miles back to Bastogne.

The weather, an ever-important factor, was fine, but cold. The roads were fairly good, but at some points they were too narrow to admit of two cars passing, but as it was not necessary on account of the limited population to create any neutralized portions, the races could proceed at full speed the whole distance. The advantage of this arrangement is obvious. When neutralized spaces occur room is left for charges of invidious treatment in the matter of timing and restarting, which do not make for harmony or good feeling. Besides, no unauthorized repairs can be executed.

The contesting vehicles were divided into six classes, the first four of which traveled the course of fifty-three miles six times, while the last two negotiated it only twice. The total distances were, therefore, 318 miles for four classes and 106 for the other two. The classes were: (1) Heavy cars (not exceeding 1,000 kilogs.); (2) light cars (400 to 650 kilogs.); (3) voiturettes; (4) tourist cars; (5) motor-tricycles; (6) motor bicycles.

The total number of entries was seventy-six, but of these twenty failed to appear, while of the fifty-six that started only fourteen failed to finish. These dropped out for many curious reasons. Baron de Crawhez, when going at over sixty miles an hour, tried to pass a heavy German car driven by Coppée, where there was not enough room, and wrecked both his front wheels. Before this, however, he had won the Racyzazki Cup for the fastest first 100 kiloms., having covered the distance (62.1 miles) in 62 minutes 25 $\frac{3}{4}$

seconds. Charron came to grief through staving in his radiator while attempting to pass a heavy Mors driven by Augières. Two other cars severed their connection with the race by running into a wall at an abrupt turning, which the drivers had failed to observe on account of the dust from Jarrott's car, which they were following. Deschamps, driving a car of the same name, found it expedient to retire when one of his pistons seized and burst the cylinder.

The same course was followed by Jenatzy, when one of his front wheels came off, and threw him in the ditch. He was not much hurt, but his mechanic was, and so was the car. After the accident it presented a striking resemblance to a scrap heap.

Some people fancy that George Stephenson's "coo" must have died many years ago, but that is not so. It died in the Ardennes on the 31st July, when a Decauville car ran into it, and at the same time wrecked itself. This kind of thing comes from a disregard for those in authority. Had the cow respected the bourgmester's proclamation to keep the road clear, it might have been alive to-day. Baron de Cater's car got damaged by leaving the road, the wheels on one side being over a flush wall on the roadside; fortunately it did not topple over.

After a few laps had been covered the heavy car race settled down into a contest among five competitors, these being Vanderbilt on a Mors; Zborowski on a Mercédès (German Daimler); Girardot on a C. G. V.; Gabriel on a Mors; and Jarrott on a Panhard. Gabriel damaged a chain and dropped astern somewhat, but he was successful in coming in second to Jarrott's first, his time being 6 hours 2 minutes 45½ seconds, against the winner's 5 hours 53 minutes 39 seconds. Vanderbilt had no difficulty in taking third place, but it was a match for fourth and fifth between the Polish named Anglo-American and Girardot, with about an even money chance on either a few miles from the finishing point, but the Frenchman, having to slow up a little, spoiled what would have been an intensely interesting finish.

In the light car class a remarkable performance was done by a Gobron-Brillié car, driven by Rigolly. This vehicle, using alcohol, came in fourth in all classes, beating the last mentioned two and covering the distance in 6 hours 42 minutes 16 seconds. The winners in the various classes then were Jarrott and Rigolly in the first and second respectively; Corre on a Corre car, in the Voiturette class, time 9 hours 34 minutes 39 seconds; Gregoire, on a Ger-

man, in the fourth class, time 10 hours 12 minutes 58 seconds; Osmont, on an 8-H. P. DeDion-Bouton, in the tricycle class, time 2 hours 53 minutes 44 seconds; and Derny, on a Clement, in the bicycle class, time 3 hours 9 minutes 47 seconds.

The contest was, on the whole, a great success, but it had defects which time and cars will remedy. The police supervision was insufficient, and crowds obtruded on the road at some points to such an extent that the cars had to slow to prevent accident. The dust also was extremely annoying after the first round or two, as by that time the cars were following each other in rapid succession. It has already been said that at some points the road is too narrow to permit of two cars passing, but at other parts, where it is somewhat wider, a difficulty was experienced in making the leading driver hear, so that he might keep to the side, and as the very fast cars had after a time to pass others frequently, the delay thus caused became serious. A resourceful mechanic riding with Gabriel solved the problem. He filled his pockets with stones, and when the "toot-toot" of the horn failed, a pebble landed on the leader's neck, securing immediate attention.

The winner, Jarrott, who represents Panhard and Lavassor in Great Britain, is not wholly favorable to the circuit form of racing, at least as experienced in the Ardennes, with slow and fast cars running on the road at the same time, although he believes that if the laps had been two or three instead of six, with the same distance, it would have been much more satisfactory.

A. F. SINCLAIR.





# Automobile Insurance—Vehicle Liability

DIXIE HINES

**I**NSURANCE is divided into classes—legitimate and illegitimate. The two respective classes find supporters in the United States for the first, and in Great Britain for the second. It would be manifestly impossible for the recent riotous gamble incident to the postponed coronation in London to have occurred in the United States for many reasons; first, because insurance is valued too highly as a protective measure by Americans to be made the means of a speculative gamble of such criminal proportions as was witnessed in the recent action of the British Lloyds, where it is possible for one to lay odds under the guise of insurance policies on any event, individual or condition. The various forms of "policies" written for a consideration at Lloyds are too voluminous to be even mentioned within a limited space. By means of Lloyds one may gamble that the King will not live, that on a given day, past or future, the weather was, or will be, of a certain temperature. There is no science, principle or reason in such contracts; they are nothing but gambles which should be prohibited by Parliament as being detrimental alike to honor and respect, since no one can have the respect for insurance that it deserves so long as it is made the means of such reprehensible practices as these.

Americans believe in protection. As a result of this belief the insurance companies here are never far behind the times in meeting every legitimate situation that arises. Even in this country we have insurance in perhaps a hundred forms, but each policy is based upon actuarial experience, and the issuance of any sort of a policy is conducted scientifically and mathematically. This is just the difference between the institution of Lloyds and the standard companies of America. Lloyds do their business by guesswork, American companies by science. This is the reason why automobile insurance is as yet in a chaotic condition, the companies feeling that the proper course for them to pursue is a careful examination of the field, and a slow, conservative and just equalization of the rates, so as to make them commensurate with the hazard involved. The automobile being a new element in insurance, it is at this time engaging the attention of every prominent company, because it is recognized the effect of the new form of locomotion is bound to be more far reaching than one would imagine without a careful examination into the subject.

As an insurance proposition the automobile most vitally affects the liability insurance companies throughout the United States. Next, perhaps, the fire insurance companies are most deeply interested. Then the steam boiler insurance companies, doing an extensive business in the inspection and insuring of boilers of all kinds, find their line affected, as do those companies writing accident insurance policies.

Liability insurance is one of the oldest forms of policies written. The line is sub-divided into innumerable branches, one of the most important in the past being "vehicle liability," meaning thereby that the company issuing the policies agrees to defend all actions at their own cost, and to pay such judgments as may be obtained against owners of vehicles by any person or persons claiming bodily injury due to the negligence of the owner or driver of the vehicle; frequently a separate clause is inserted providing that the company shall also be liable for any damage done the property of others by the vehicle. This, quite naturally, is perhaps the most popular form of liability insurance now written, especially if considered from the standpoint of an automobile owner, since there is nothing that acts as such a deterrent to the prospective purchaser of an automobile as the knowledge that should he possess a motor vehicle there is considerable likelihood that he will spend most of his time defending actions and paying claims arising from his alleged negligence.

That such a fear is warranted may easily be seen by glancing at court records or the daily papers, both of which teem with records of the payment of claims by automobile owners for alleged injuries to person or property. It would cause astonishment to the most careful observer of the times to examine the records of the various courts throughout the Eastern States and see the large number of such claims now pending against automobile owners under this charge. Of course, it does not follow that because a claim is filed and action begun to compel the payment thereof that it means as a matter of course that the owner against whom the claim and action are instituted has been negligent—far from it—but it *does* mean that he will be called upon to defend the action just as strongly, and at just as great an expense, as if he had really been culpable, since it is one of the triumphs of freedom that any person who feels himself aggrieved can forthwith file a bill of complaint alleging all the horrors of which the human mind is capable of imagining, and this bill must be respectfully answered, and, if needs be, defended by intelligent counsel at great expense. If, as is frequently the case,

the majesty of justice is overshadowed by the ties of personal friendship, the owner of the automobile will find that the jury of the plaintiff's peers has taken pity upon him, either for the failure to make out a case, or for the glory of local institutions, and a decision rendered in his favor, necessitating an appeal and additional expenditure.

It will thus be seen that as the rain falls upon the just and the unjust alike, juries find against the guilty and the innocent as well, which makes it all the more necessary that the prudent owner of an automobile protect himself by placing insurance policies as may be offered against such cases as above recited. Competition is too keen in all lines of insurance to permit of an exorbitant rate for same being charged for any class of hazard very long. There are too many companies with vast capital ready to engage in any legitimate form of underwriting which can show a reasonable profit for the rates to remain at unjust figures indefinitely. The tendency is, rather, to give the assured the benefit of the doubt, and to place the rates low and raise them as the experience of the companies force them to. Thus it is that where there is a legitimate demand for protection, there are companies ready to provide it. There has been a demand for automobile liability policies, and the leading liability companies of the country have signified their willingness to assume the risk, the only question at issue being the rate to be charged. It was deemed inadvisable to establish a rate which would not be commensurate with the risk assumed, and yet it was equally as desirable that the rate should not be unjust to the assured. There were no actuarial tables at hand on which to base this rate as there are for all other rates, and the companies were therefore compelled to restrict their operations until such a time when they could base their charges on the fundamental principle of insurance—experience.

Those who first came into the field wrote a few policies on automobiles at \$25 and lost money by doing so. In a short time it was thought that \$50 would be a fair rate, so the price was advanced. The experience of the companies at this rate was anything but flattering, and the premium was therefore advanced to \$75 and then to \$100, which is now the standard rate, although there are one or two companies who perhaps exercise superior discretionary powers, and are thereby enabled to continue at the \$50 rate. How long they will so continue no one knows, nor can anyone say whether the rate will go beyond the \$100 mark. These matters really rest



entirely with the owners of automobiles themselves, and if they are willing to pay \$100—and make the risk worth it—the companies perhaps will be satisfied. On the contrary, if owners will, by their own acts, make it possible for the companies to adopt a standard rate of \$40 or \$50, the companies will be satisfied so to do.

The companies insist that the owners of monkeys shall pay for the damage the beasts do. That is the way they consider the automobile hazard. If the owners insist upon engaging reckless drivers, if they persist in making the public highways a racing course, if they submit to the extortion of every country bumpkin who believes himself aggrieved, and submit to the blackmail practiced up on them in a thousand different ways—all of which the insurance company assumes to settle under their liability policies—then the owners must pay for their folly. It is immaterial to the companies. They are not engaged in a philanthropic work, they are prepared to do a legitimate insurance business, to provide protection for all who are willing to pay for it.

It has been reported a hundred times that owners of automobiles are considered the legitimate prey for the ruralites—and many cityites as well. The average country constable can generally see ten revolutions to an automobile wheel where only one exists if there is a fee in it for him to see the increased revolutions. The ruralites believe with the criminal that it would be easy to go to Sunday-school if the teachers would pay the pupils a salary. It has been the practice in the past that when a claim arose for alleged injuries sustained by any one for the automobile owner to immediately pay the bill without question, whether it was just or otherwise. The happy recipient of this easy money proceeded therewith to inform all his neighbors and the next damage claims were a little more expensive and there were a few more of them. This has now become a most profitable business with a large number of the rural law enforcers and others. When one is inclined to contest these demands for damages, the threat of suit by some local lawyer generally has a salutary effect upon the proposed defendant and the bill is thereupon paid without question as being the easiest way out of the whole thing. All this is injurious to every automobile owner. Contrary to the general belief, all automobile owners are not multi-millionaires, and it happens sometimes that the expense of keeping a motor vehicle is, in the end, greater than the price paid for it. For this reason automobile owners owe it to themselves and to others to refuse positively to “stand for” blackmail under whatever guise. It

may be annoying to be called as a defendant in half a dozen insignificant cases, but if the matter is fought out properly these "strike" cases will soon cease.

The insurance companies writing forms of policies which protect an owner against such attacks as I have outlined, appear at this time as benefactors of the automobile industry. When the companies place a policy on an automobile and a claim arises, no matter how small, they will carry it to the highest court if it is deemed by them to be an unjust one. The question of the amount, whether it be large or small, does not make the slightest difference to the companies, the principle involved is what they fight on. If the claim is reasonable and just, it is paid forthwith without question. As a result of an extension of such insurance in a few years there will be less tendency on the part of claimants to make unreasonable and unjust demands upon automobilists, because the makers will soon learn that such claims will not be successful.

Liability insurance, it will therefore be seen, is beginning a new life. It is following in importance the automobile industry itself. The companies are anxious to add the automobile to their line as a standard policy. They are also anxious to effect protection for owners on an equitable basis. In a short time, when the experience of the past year has been finally tabulated, it will be seen just what the cost of carrying such risk has been, and then a standard rate can be decided upon.

Whether this rate shall be high or low depends entirely upon the owners themselves. If they protect their machines by liability policies, and then take the interest in the policy that they should, they will use the vehicle with care, will follow the instructions of the company regarding claims and will find that in the end the arrangement works in perfect harmony. These policies are not written for profit, they are written for protection only, and the companies agree to do all they can to make it possible for an owner of an automobile, by a limited outlay for protection, to enjoy the delights of automobiling without the constant dread that every time he passes a corner he is to be met by a constable and a swarm of witnesses, ready to swear to the truth, of course, where the truth meets the requirements of the plaintiffs, and where it does not, it has generally been the custom to decline to permit a small matter like that to stand between friends.

EDITOR'S NOTE.—This is the first of a series of papers on automobile insurance, by Mr. Hines, who is an experienced insurance

underwriter and agent. Mr. Hines has made a careful study of the automobile and its relation to the latest forms of insurance, and will contribute in his successive articles the latest information and explanation of the standard insurance forms of each branch on underwriting. The next paper will deal with fire insurance, including the latest form of "floater" policies. The editor of THE AUTOMOBILE MAGAZINE will be glad to forward to Mr. Hines any communications sent to this office for further information on this or any other subject relating to insurance on automobiles.

## While He Thought

THE morning air was like wine, birds sang in the tree tops, the grass bent gracefully before the gentle zephyr, but the man standing there saw nothing, heard nothing, for he was plunged deep in thought.

The sun circled the heavens and it was night.

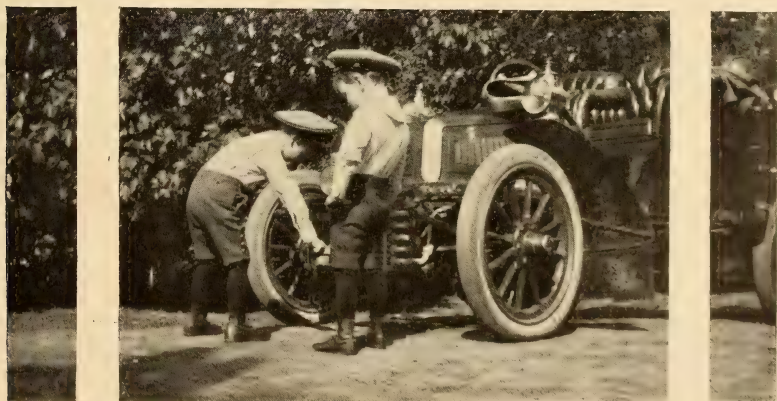
Many were its uprisings and downgoings, and still the man stood with thought-furrowed forehead beside the road.

Rabbits and squirrels, contemptuous through familiarity, played around him as about a statue, and birds perched upon his shoulders and nested in his cap.

On the evening of the three hundredth day he raised his head and sighed a sigh of exquisite relief. The wrinkles left his brow, and his whole bearing breathed forth buoyancy and exultation.

"Ah!" he cried, "this breakdown is due to defective sparking!"

Firmly and without hesitation, he sat himself down with an armful of books to discover from them which one of the nine thousand two hundred and eighty possible spark failures this one was.





## An Autumnal Romance

ANNA THESBY FINCH

It is night—in Jersey. The moon is shining, but the shine is hidden by the flying scud of mackerel cloudlets. Along and over the meadows the resurrected mosquitoes wing their belated flights, singing a clarion din on the saturnine atmosphere.

"Fly! Fly for your life, Reginald! Pa is behind with the piebald team an' a gun."

An elopement! Reginald Essex Hackensack pushes the speed lever over to its furthest notch. But the runabout refuses to run away—the piebalds gain at every step. Ten steps, five steps, two steps—the rattle of their Jersey joints mingles in close confusion with the "chug, chug" of the laboring motor.

Hackensack pushes the lever forward, but as it was already in the farthest notch no benefit results from the pushing.

The old man's team gains slowly, but surely. Already the cyclonic wheeze can be heard as they breath and closer come.

"Fly, Reginald, fly! They are upon us!" All in vain.

"Stop!"

It is the harrowing voice of Squash Beans Spinach, the irate father.

Hackensack can do naught but obey—the gasoline is exhausted. He puts on the brake and descends. Will the old man shoot? Will he—

"Here, gal, consarn ye! How kerless! A-ridin' aroun' in ther night air without yer rubbers or cough medicine! Didn't the doctor tell yer not ter forget them under no circumstances? Here's yer squills and yer parashoot, too. Elop'in' in an automobile may be mighty excitin', but don't ferget yer health."

Hackensack buys a couple of quarts of benzine from a drug store, uses it for lack of a better fuel, gets under way, then goes slowly—he is thinking things that wouldn't look well in print.

They are married now and living as happily as Jersey and a large family will permit, but R. E. Hackensack has no runabout now, walkabout is the only method of locomotion he can afford.

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### Before and Since

"Before I owned an automobile

I was all run down from head to heel."

"And now," said the man on foot with a frown,

"The rest of the folks are all run down."

## A. C. G. B. & I. Welbeck Abbey Races



THESE races over a kilometer were run on Thursday, the 7th August, at Welbeck Abbey in Nottinghamshire, the seat of the Duke of Portland. It had been intended to hold them at Bexhill-on-Sea, a watering place on the English Channel, where similar races were held on Whit Monday in a gale of wind and rain. In the meanwhile, however, a householder, whose property adjoins the Bexhill course, secured a perpetual injunction against such interruptions to his peaceful use of the road. It was therefore found necessary to depart from the original program, and arrange for the use of the private road at Welbeck. In some respects this was an improvement, but on the whole the change was to be regretted.

The weather was miserable, rain falling the whole of the previous day and right up till the end of the racing. Under such conditions high speeds could not be expected. However, one good result was accomplished, Jarrot, on the 70-H. P. Panhard, on which he won the Ardennes race the preceding week, succeeding in lowering the British record for the kilometer to 35 seconds. This works out at sixty-five miles an hour, and is not, therefore, a very valuable performance, comparing but poorly with the world's record of  $29\frac{2}{3}$  seconds, established by W. K. Vanderbilt not long ago, but inasmuch as it lowers our home record somewhat, it is interesting.

There were over eighty cars entered for the various events, but on account of the miserable weather, no doubt many famous cars were absent.

The contests were all against the clock, the road being much too narrow to permit of more than one car at a time. Only in two events was genuine racing seen, and in both of these Jarrott's Panhard ran away from all competitors, his time in the heavy racing car event being  $37\frac{2}{3}$  seconds, or  $2\frac{2}{3}$  seconds worse than he did afterward. The nearest to this was 44 seconds, by Thery, on a Decauville light racing car. Hon. C. S. Rolls, on a 20-H. P. Panhard in the touring section, got over in 48 seconds, winning comfortably.

A. F. SINCLAIR.



Mr. Arthur Balfour, Premier of England  
and Friend of Automobiling



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## Now

**S**UMMER has gone, and all that remains are memories of seashore and mountain. With September comes autumn, that season of the year when nature is seen at her best. The change from summer to autumn, when the trees begin to take on their mantles of russet and scarlet and yellow; the Indian summer, called the Summer of All Saints by the Arcadian peasants, whom Longfellow immortalizes in his poem "Evangeline."

The air seems dreamy, and all nature appears to slumber, while the songbirds prepare to leave their homes and seek a warmer clime. The piping of the quail begins to be heard in the thickets, the vineyards are waiting the picker, all signs point to the coming of winter.

Already the orchards are receiving the attention from their owners, who are gathering the rosy-cheeked apple that will furnish remembrance of autumn during the cold winter months. Longfellow best describes the present month when he says:

"My ornaments are fruits, my garments leaves,  
Woven like cloth of gold, and crimson dyed;  
I do not boast the harvesting of sheaves,  
O'er vineyards and o'er orchards I preside,  
Though on the frigid scorpion I ride.  
The dreamy air is full and overflows  
With tender memories of summertime,  
And mingled voices of the doves and crows."

Now is the time when the owner of an automobile who is a lover of nature will see to it that his vehicle bears him away from bricks and asphalt. Country lanes and suburban roads are doubly attractive at this season of the year. The visit to the orchard to see the mountains of apples gathered and sorted by the farmer is one which will bring back to most of us recollections of a time when automobiles were as yet unthought of.

You ride through a forest with the trees arrayed in their colors of green and yellow. The sun sets and dyes the trees and landscape in crimson and gold. The harvest moon rises majestically and soon silvers the fields and villa roofs. The air is clear and resonant. The sound of the pulsating motor whose power bears you swiftly on comes softly to your ears. The roar of the city is missed, and gladly, too.

When reluctantly you are at last compelled to return home, you promise yourself that you will again visit the country before Jack Frost destroys its beauty, and if you are wise you will remake and keep that promise as many times as you can.

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## Freight Charges and Repairs

**I**N handling automobiles, their parts and equipments in so large a country as the United States, the cost of transportation is of the greatest importance to a manufacturing enterprise making a wide distribution of its products. Foreign makers newly established on this side of the water will come to the realization of this fact slowly—even severely. The distances are so great here, compared with those of most foreign countries, as to materially increase the normal cost of selling any particular equipment, though the added expense of shipping the whole machine is not so noticeable.

Express and freight charges may even influence design and construction, when parts, accessories and the like must be handled in competition with one another. We have in mind one large and

important concern which was led solely on these grounds, to essentially modify a certain fitting of their vehicle. This feature had been brought out and first marketed abroad, where no difficulty had been experienced in handling it. In fact, when the suggestion for change was made by the American agents, the parent house failed to appreciate the part played by transportation charges, since in their home trade this factor was of much less importance.

In the article referred to, the alterations as made were in the direction of facilitating repairs. It was found that from some distant parts of the country it would frequently cost more to return a part to the factory than a new one was worth. This, too, left out of account the expense of returning same, whether borne by the purchaser or by the manufacturer. Extended experiments were made to build these parts as interchangeable as possible, and to re-design the whole sufficient to admit of this being done. In the end, any needed part could be supplied by the factory and replaced by the purchaser without much trouble.

The systematic effort referred to was highly successful, and it is now only necessary to send to the works for the required part, on which the transportation charges are comparatively light—and that only in one direction, the necessity for sending back the injured piece being altogether eliminated. This experience, it may further be said, greatly influenced the methods of that factory. Interchangeability of parts became more than ever an important study. Better machinery, adapted to special requirements, was obtained, with a result also of visible improvement in the whole product. In the end, too, the cost of construction was lessened, while the convenience of distant purchasers has been served through improved and cheapened means of securing repairs and replacements.

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## Calls to the Road

**W**HENEVER we can lessen our steps on the treadmill, we should do so—as a matter of course and of duty. It is possible for us to go on for a very long time taking just the same steps in just the same way. But sooner or later there comes a snap in something—either the machinery of our labor or the machinery of ourselves—and we are in need of rest if not in need of repairs. There are always cares and duties waiting; but that does not mean that we should be forever chasing them around our back yards and beyond our office doors.



When things look most twisted and knotted, leave them for an hour or for a day and make an automobile trip into some new or at least some half-familiar locality. Your apparent disregard of the laws and edicts of business will be like a cold bath in the morning—something of a shock at first to your over-sensitive nature, but afterward an awakening and inspiring influence.

Out on the road there may come the thought of a new duty to you—the duty of becoming really acquainted with the surroundings of your own section, its people and their individualities. Try the river, highways and byways. The very repose of these waters has an element of purpose and duty in it. Take a woman for your companion. Women know how to be scientifically care-free, as men seldom if ever do. The most delightful companion for a summer holiday trip is a well-bred, lovable woman who is constitutionally care-free. Mix such other ingredients as you like with your plans, but be sure that this element remains intact.

There is a certain vista of space about the ideas of a care-free woman, as if she had spent her whole happy girlhood among the hills and beside the waters. The world, whether of large or small affairs, glides past, while she spins one long silken thread of happiness. She hasn't any desire to reform things anywhere—not even her husband who, being a man, must of course need reforming. She is simply at peace with herself, satisfied with her surroundings, happy in her family and overflowing with a genuine love of outdoor life. This is theoretically not quite the thing, but somehow it just suits us. Her care-free life is as much needed as is the little mountain brook in whose ripples we see the blue sky and bright sunshine of a summer's morning.

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## When In Crowded Streets

**P**ILOTING an automobile through the traffic of a crowded street is an art which to be most successfully attained should be very gradually attempted. Long after the novitiate stage of his automobile experience has passed, the average owner of a motor vehicle lacks such complete mastery over it as renders the art of controlling or the action of steering purely impersonal.

When afoot this solves itself at every step, and until the driver of an automobile is conscious of this same sense of absolute control over his progress any attempt on his part to traverse crowded

thoroughfares is something not altogether unrelated to murder and suicide.

With an automobile the driver of it, of course, follows the ordinary rules of the road, keeping to the right, so as to pass on the left of vehicles passing in an opposite direction. In overtaking a vehicle it is passed from the outside—the pole belongs to the leader.

Above all things and at all times, it is most necessary to keep perfectly cool and collected. For the driver of any vehicle, particularly a motored one, hesitancy and indecision may mean almost anything which is unpleasant, not only to the driver, but to those in his pathway.

The traffic at the rear will look after itself, so the automobilist's motto when picking his way through traffic should be "Forward! but not too fast!"

## There Is No "Season"

**I**T is nothing but a toy, a thing for millionaires to play with. When they get something that is as good as a horse or better than one, I'll buy it, but I don't want any automobile in mine, just now, thank you!"

Nine men out of ten will state their attitude toward the motor vehicle in almost the words quoted. The nine have no prejudice against the motor, nor for the horse; they simply want that which is best and cheapest for their use, and, quite naturally, they decline to dispense with the horse until the motor has proven itself capable of taking the animal's place under any and all conditions of service.

Makers of motor vehicles, unwisely for themselves and for their wares, are aiding the growth of this disbelief in automobile capability when they talk of "seasons." You go to a maker or to an agent and ask him about this thing or that, and before you know it he will excuse himself or the vehicle by telling you that "this is not the season for automobiles; come around in the spring when people are buying them and I'll talk to you."

Such a speech, and the majority of automobile sellers make use of it, is a virtual confession that the popular doubt of the motor vehicle being an all the year around conveyance is not without a foundation in fact. This is not so; the facts are directly the opposite, and owners, sellers and makers of automobiles knowing it to be so should never allow themselves to talk of "seasons" in relation to automobiling.

If the motored vehicle is nothing but a fair weather, Sunday sort of a conveyance, which can not be better used under the ordinary conditions that a horse drawn one can, then the thing has neither a present nor a future, and those who buy or build automobiles are only mistaken enthusiasts whose time and money are being worse than wasted.

If there is any "season" when the motored vehicle can not be used, then it is at best only a partial success, and that is but one degree removed from failure. While the brave and the brainy ones are working to hasten the coming of the day when the perfect vehicle shall have been arrived at, the least that the weak-kneed drones and doubters can do is to refrain from talking "season" in connection with the present vehicle's usefulness.

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When a boat scarce bigger than a skiff is driven across the Atlantic ocean by an explosive engine using only ordinary kerosene for fuel, then the long-looked-for day when the expensive explosive gasoline motor will be replaced by the cheap and safe kerosene one is in sight. The success achieved by this little craft in crossing the ocean means a lot to the automobile, since what has been achieved on water can easily be duplicated on land, and the substitution of kerosene for gasoline in automobile power generation will once and for all solve a lot of knotty problems which are just now perplexing automobilists and clouding the complete triumph of the new method of conveyance.

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There can be no denying that the Frenchman knew what he was doing when he equipped the fast-moving automobile with that barbarous, fish-mouthed, bulbous-backed barker known as a cyclorn. This ear-splitting announcer of an automobile's approach has a full category of virtues if it has only one—it will clear the track. Neither man nor beast stands upon the order of his going when his tympanum is lacerated by the cyclorn's shriek, but the price paid for the shrieker's road-clearing powers is a lasting hatred on the part of every one who has heard it. Movers the squawking horn may and does make, but friends—never.

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Man isn't long interested in motor propulsion before he learns that advice is something which would keep the world well fed if it were only meant to be eaten instead of acted upon.





# Mainly about Men and Motors

**L**ONG ISLAND officialdom for some reason a few months ago took a violent dislike to the automobile. Whether the residence of William K. Vanderbilt, Jr., on the island had anything to do with it or not, is not known, but it remains a fact, nevertheless, that the average Long Island official has not accepted the automobile with good grace.

It has been said that the average Long Island constable quickly scented the automobile as a good thing, and the revenue that he has derived from has so convinced was right that, like "wants more." The shops are not back-the spoils, and this, toriety - seeking has made the life tomobile tourist on thing but a blissful not be inferred, that the anti-auto-prevalent everywhere on Long Island, for such is not the case. There is an influential class of Long Islanders, keepers of stores, restaurants and hotels, such like, who have profited by the advent of the automobile, as the average automobilist not only has money to spend, but he spends it. These people do not sympathize with the attorney, the justice and the constable, with the natural result that there is a pretty stiff argument on.

Where the sympathy of the Long Island business man is enlisted, was shown recently when the American Motor League took up the arrest of "Wally" Owen in order to make a test case of his arrest. Owen declared to the writer that he had been timed with Waterbury watches, and that not one of the constables who have



the justice shops him that his scent Oliver Twist, he aforesaid justice ward in providing coupled with a no-district attorney, of the average au-Long Island any-dream. It must however, from this, mobile feeling is

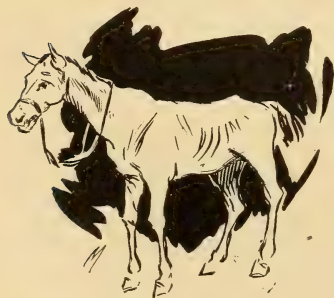
presumed to time fast and slow automobilists were capable watchholders. It was the intention of the American Motor League to check up the accuracy of the granger watchholders with New York experts, but the foxy gentlemen who have had a good thing were warned, and so on the particular Sunday when the test was to be made, Long Island roads were free for all; no constables or justices were doing any business on that day.

The way the authorities went about timing the automobilists was like this: They first measured off a one-eighth mile on the road, and then they stationed a man with a flag at the commencement of the measurement, and a man with a "watch" at the other end. As the automobilist passed the man at the beginning of the measured distance the Long Islander dropped a flag, and at the same time he was supposed to start a watch going. When the automobilist passed the man at the finish that timer looked at his watch, then compared it with the man at the starting point. How either man could be positive of the exact time under such an arrangement was what puzzled Owen, even when he admits that the starting timer trotted ahead of him and got at the finish before the automobile, which Owen, not without reason, thinks proves that he was not going extremely fast.

The Owen case was postponed, owing, it is said, to the opposition the authorities were confronted with from the sane people of that particular section of automobile official activity at Freeport, L. I. Of course no one believes in reckless speeding, and there is no doubt but what a few of those who possess racing vehicles have violated the speed limit; it is to these violators that we are indebted for the zeal that the Long Island official has displayed.

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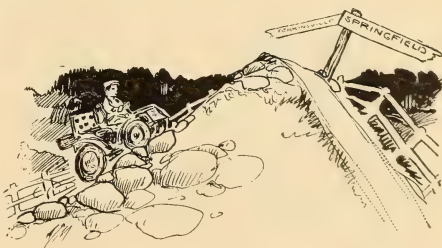
In this connection, it is now a well-known fact that the price of live and dead stock has increased amazingly over there since the automobile appeared on the roads. I have not got present quotations, but McDougal, the cartoonist, recently gave a list of the prices asked by the natives for superannuated horses, cows and chickens. These prices are not quoted on the live stock exchange, and can be accepted as in a distinct class—the automobile class. The number of fatalities



among decrepit and useless live stock on Long Island has been wonderful in the past six months, and it is said an industry has sprung up over there which is the most profitable that has been started for years, not even excepting the Miller syndicate, which was the best thing of its kind up to the time the Long Island ruralite introduced his automobile "accident" industry. When a horse on Manhattan Island gets too feeble for further use, the Automobile Animal Killing Syndicate carts him over to Long Island. The poor equine is led to one of the automobile thoroughfares, and if he is attached to a vehicle, so much the better. Then the leader scans the horizon for the signs of an approaching automobile. When one is seen coming at a good rate of speed, the sacrifice is pulled across the road, and the next moment the automobile owner is presented with a bill for the value of a thoroughbred with a long pedigree, while the price asked for the ramshackle vehicle would create envy in the offices of Studebaker.

This profitable industry, it is said, was started through Col. John Jacob Astor, who gave a boy \$50 as the life price of a little yellow dog, and then some man with a \$10 horse wilfully got in the way of Col. Astor's car and he was paid \$300, after proving, of course, that Maud S. was the mother of his dear departed, and that Robert Bonner and the late Commodore Vanderbilt never drove anything finer.

Probably the two youngest automobilists in the world live and thrive in that very healthy town and State, Springfield, Vermont. I beg leave to introduce them to *AUTOMOBILE MAGAZINE* readers as Kenneth Hazen Woolson, aged five, and Eric Amasa Woolson, aged three and one-half. These boys are the sons of one of the pioneer and most enthusiastic of New England automobilists, W. D. Woolson, treasurer of the Jones & Lamson Machine Company. Mr. Woolson is possessed of a strong vein of humor, and his article in our March issue entitled "The Vagaries of a Vermont Automobile," proves that Mr. Woolson, the writer of it, is a man who goes through life laughing at troubles and having a lot of fun out of them. Unlike most people, Mr. Woolson does






not expect perfection in anything, and is not willing to wait for it, but goes right ahead extracting enjoyment and profit out of the things as they are to-day, in the meantime he takes chances on what to-morrow will bring him; it was this kind of philosophy which induced Mr. Woolson to get one of the early automobiles.

Mr. Woolson's present vehicle is a 16-H. P. one, made by the Peerless Manufacturing Company, of Cleveland, and of the carriage Mr. Woolson says "it is first-class in every respect. I have tried it on these very hard Vermont country roads and I have never yet had it stop with me, except when I wanted it to."

At my request, on his return from Europe, Mr. Woolson sent me eight pictures of his little sons, who are depicted as operating, repairing and examining this Peerless of their father's. The boys are enthusiastic, and whenever the father is around with the automobile they are never quite happy until they are invited to join him. The smallest boy, Eric, while out with his mother recently, passed a peanut roaster, which was run by a gasolene flame. The little fellow turned up his nose and remarked: "I smell papa's 'mobile," which shows that he has mastered one of the characteristics of the gasolene carriage.

The pictures of these Woolson boys will appear in various issues of the *AUTOMOBILE MAGAZINE*, so that they will soon become known to our readers.



In common with a good many other people, I regretted to see John Brisbane Walker withdraw his automobiles, the "Rapid Transit" steam vehicles, from the downtown streets. Those who have to cross town from the Wall street ferry to Cortlandt street, and vice versa, found that the steamers were a good thing, and willingly paid the ten cent charges asked for riding in them. It is said that the cause of the withdrawal was the repair bills, which amounted to more than the profits. But no matter what the cause, the withdrawal was not a good thing for automobiling, since it was taken by the general public as a confession of failure on the part of Mr. Walker.

Whether the fault was with the construction of the vehicles or not, I am unable to say. But it is a well-known fact in the trade that the pioneer steam vehicles were far from perfect and their

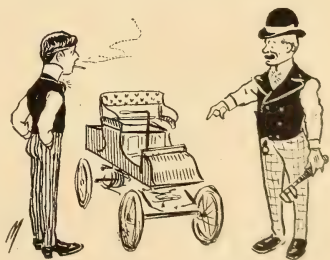
many failures did not do the automobile business any good. Why perfection should have been expected is one of the remarkable things, since the early builders had little to go by in the way of precedent. Even so, however, there is no excuse now for building poor vehicles when the White, Prescott and Century people have very conclusively demonstrated that a good steam vehicle can be built.

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Referring to Mr. Walker's company reminds me of an article which appeared in a Newark paper some time ago, which told of an outing by the Ray-Palmer Club. This club is composed of ladies, and they go somewhere each week, so it came to pass that for one Saturday they selected a trip to Tarrytown via Mr. Walker's steam vehicle line. The Ray-Palmers were loaded into four vehicles, the first of which carried the luncheon. According to the chronicler of the trip only one vehicle reached Tarrytown, and that was the one with the lunch aboard. The rest fell by the wayside, causing the Ray-Palmers to do some tall pedestrian work before they finally caught up with the lunch at Tarrytown, where the first automobile had landed after some terrible experiences. From all of which it would seem that Mr. Walker has not learned to do things in automobile building quite as successfully as he has in some other directions.

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The T. B. Jeffrey Automobile Company have adopted a wise plan with their agents, and one which other automobile makers can follow with profit to themselves and satisfaction to others. As soon as an agent is secured and he has bought a Rambler, a man from the factory is sent, and the new agent is thoroughly instructed, not only in handling the machine, but in how to make the minor repairs in it as well. This sort of mission work is much appreciated by the agent, who oftentimes is not overburdened with knowledge of automobile construction. Furthermore, a mechanic direct from the factory can do much toward smoothing out the rough places for him in his new departure.



In connection with the Jeffrey people, I was interested in seeing the sportsmanlike stand the above company took after the recent

Chicago run. An over-zealous reporter of a paper published at the home of the Rambler, Kenosha, put out a story stating that the Jeffrey people had made protests of unfair treatment in the run. George W. Bennett, the ever-aggressive head of the Jeffrey sales department, promptly called the reporter to task, and sent out a disclaimer, which had the true ring of the sportsman, and which stated plainly that the Rambler "had no kicks coming," and was perfectly willing at all times to take its chances over fair and bad roads with the best of them. And as the Rambler had been right up along side of the band wagon all through the run, there was no room for argument. This is a sort of thing which will win more friends for the Rambler, though the Kenosha carriage doesn't seem to me to need any more of these than it already has.

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The sailing of Harlan W. Whipple, of the Automobile Club of America and the New Jersey Automobile Club, will create an un-



fillable void in the ranks of the fun-provoking good fellows of New York and New Jersey. Harlan W. Whipple is easily the most popular

member of the above clubs, and his absence will be mourned. Mr. Whipple was recently selected as one of the dozen of automobilists in the United States to be elected a member of the New York Press Club, and the writer had the honor of proposing him. Among other members of the automobile fraternity who became members were: George H. Day, president of the Electric Vehicle Co.; William Morgan, of the Autocar Co.; W. D. Gash and Mr. Gallaher, of the Searchmont Co.; Henry C. Cryder, of the Automobile Co. of America; Winthrop E. Scarritt, president of the Automobile Clubs Association, and other well-known men. The advent of these prominent gentlemen in the New York Press Club gave the men of the pen and pencil a fairly good idea of the quality of American automobilists, and disabused their minds of the more or less accepted fact that the automobilists were a lot of people whose chief delight was running over man and beast, and strange to say, it is a fact that the New York papers have been very much less virulent in their denunciations of the automobile driver since these gentlemen have become known to the press clubites.



Referring to Mr. Whipple and Winthrop E. Scarritt, there is a sort of David and Jonathan friendship between them, so that when you see Whipple you may be sure you'll find Scarritt somewhere in the immediate neighborhood, and vice versa. This fact is always commented on, and is all the more noticeable because the men are so entirely different in temperament. Both are good story tellers and each is easily the life of any party he is in. One of Whipple's weaknesses is buying automobiles, and he is always impressed with Mr. Scarritt's automobile judgment, and he never loses any time in disposing of his own vehicle and acquiring Mr. Scarritt's latest purchase. Touchin' on and appertainin' to this, as the Hon. "Bill" Devery would say, Mr. Scarritt tells this story: "I have owned at one time or another a sample of nearly every vehicle built in America. That is, every distinct make, and my friend Whipple has also owned them." Then Mr. Scarritt told about his first purchase, a Stanley steamer, which he eventually managed to land in East Orange from Newton, after blowing up the boiler in Rhode Island and a desperate battle with sixteen million mosquitoes in the Newark meadows while under the machine, alternately gazing at the machinery and the stars. "I got the French fever," said Mr. Scarritt, "and made up my mind that I would not be happy until I got a great big French automobile. Along it came at last, and I ran it up town to a storage place, so I could examine the machinery from the repairman's pit. It was one of those four-cylindereed vehicles, and as I looked upward from the pit by the aid of an electric lamp and saw the two thousand-odd parts of that big vehicle, I just made up my mind that the first man who came along with a check book could have just all my right and title thereto. I was afraid of it." Turning to Whipple, who sat alongside of him while he was telling the story, Mr. Scarritt said: "My friend Whipple was the first man along, and I got his check and he got my French vehicle." Whipple joined in the roar, and remarked: "I'll get even with you, Winthrop, yet!" And he will.

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With the return of Carlton R. Mabley from Europe, America regains a man who comes mighty close to being at the very top of the automobile game. To look at him you would hardly expect the smooth-faced, self-possessed young man who acknowledges being Mr. Mabley to be the same who told the biggest makers in Europe to ship him one million dollars' worth of automobiles within the next twelve months. When you come to talk with him, however,

you soon lose sight of Mr. Mabley's apparent youthfulness, and you find in him a man who has studied the automobile industry both wisely and well. The intimate acquaintanceship which Mr. Mabley has with every phase of the game makes you wonder how he could have acquired it all in so short a time. It is a liberal education on the past, the present and the future of automobilists to get Mr. Mabley started talking about them, but, unfortunately, it isn't easy to get him started, as he is essentially a man of action, rather than one of words. I'll miss my guess if the name Carlton R. Mabley don't rank high on the list of successful Americans before many years, and this, too, without regard to whether the gentleman may elect to confine his talents to automobiling or transfer them to bigger and broader fields.

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Alcohol motors are each day growing more and more successful abroad, though they are a little slow in getting into line here. The human motor often finds that a little alcohol is of an advantage, but the kind of liquid fuel that the human motor is offered at the usual roadside resort under the name of "whisky" would ruin the insides of a steel motor, say nothing of a human one. A little good whisky, understand me, good whisky, is a handy thing to have around an automobile, as a medicine more than as a beverage. The wise man sees to it that a bottle of some pure liquor, like Duffy's Malt Whisky, is always stored away in a convenient place on the automobile. You never know when you will need something of the kind, and when you do need it you want the best and want it right away. That's why the wise automobilist has taken to carrying his supply with him and why the automobile of the future is sure to be a ball-bearing affair.

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The bicycle did much for the roads of our country, but the automobile will do more. The farmer recognizes the automobile as a vehicle, but no amount of Supreme Court decisions could ever make the majority of farmers believe that the bicycle was such a thing as a vehicle. With the advent of the automobile the good roads agitation took on renewed life, so that to-day a great good roads crusade is on, indorsed and



backed by our leading thinkers and statesmen. One of the writer's hobbies has been for years to call attention to the fact that a good many of our prison inmates could be utilized to good advantage in the construction of roads, instead of employing them as is now largely done in direct competition with free skilled labor. Prison contractors are paying as low as ten cents a day per capita for prison labor, and the product of that labor oftentimes being articles of commerce is in direct competition with those of the free labor market. I have interviewed governors North and South on this question, and with only one or two exceptions, have always found they were in favor of doing away with the contract labor system, and using prisoners on public works, such as the construction of roads, etc. The convict is of course not to be considered, so far as his choice of work is concerned, but I think if his preference were asked he would prefer to work in the open air and sunlight rather than in the gloomy structures where he is employed to-day. In road work the convict would be doing something of value as a recompense and payment for his misdeeds, and there is no avenue of employment which would be more useful to his country than the building of good roads, which would stop his competition with those who pay for his keeping.

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In talking with George H. Day, president of the Electric Vehicle Company, of Hartford, about the famous Selden patents, Mr. Day ventured the belief that it looked to him as though his company, who own the patents, might some day invite automobile manufacturers to step up to the captain's desk and settle. The Selden patent is supposed to be basic in gasoline motor construction, and if it is, and will win the great legal battle which will be fought over it, I can see a pleasant, easy time for Mr. Day, who, by the way, deserves a rest, since no man has been called upon to do greater things than he. It will be remembered that Mr. Day was the works manager for the great Pope bicycle plant, and more credit is due Mr. Day for the magnificent manufacture and profits that flowed into the Pope treasury than was ever given him by a public who, as usual, knew little of the power behind the throne.



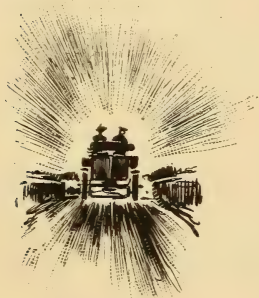


I knew it would come—the automobile in the divorce court. The bicycle had a long and useful career in managing to create a separation between two, and no two wheels can never revolve fast enough to keep up with the mischief that the bicycle has done.

But now comes the "White Ghost," formerly owned by Mr. Vanderbilt, and Chicago is the scene of its action. The wife of the man who now owns the White Ghost did not complain when her husband took the other girl in all sorts of rigs, which were duly specified and catalogued by the industrious attorney as traps, spiders, phaetons and single-seated vehicles, though just why a woman should complain of a single-seated vehicle is beyond comprehension. But when the White Ghost meandered along the Lake Shore drive and cast the shadows of its two occupants on Lake Michigan, then it was the aggrieved wife thought it time for the White Ghost owner to be favored with a 20-h. p. kick, which she duly registered in court, so if it had not been for the appearance of the White Ghost in Chicago at least two hearts would still be beating as one.

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It is pleasing to notice that the New York papers are not belaboring the automobilist with so much vigor as they were a few weeks since. I hope that this temporary



let-up is not due entirely to vacation days, with the result that at the end of the dog days the assaults will again commence. The average thinker and observer must be more impressed every day with the fact that the automobile has a wonderful future before it, and that it will be a great blessing to man and beast. To man it will mean the saving of life, as it means that the sick will be transported into the country

air, and that the doctor will fly to his patient as on the wings of the wind, whereas the stopping to harness the horse, and his slow-going progress after he is under way may mean the loss of a life.

Eventually it will mean the doing away of the horse as a beast of burden, and that always appeals to me as one of the greatest things the automobile will do. This fact is brought home to you stronger than ever in the downtown business streets of our large cities, where the horse is burdened with loads that will not be necessary when the automobile truck and delivery wagon will have

taken his place. And did you ever stop to think what a saving it will be to street surfaces, and what thousands of dollars will be saved in the cleaning thereof? The automobile will be the sanitary salvation of the city, and a priceless boon to the man who can afford to buy his home in the suburbs.

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In Lockport, N. Y., there is a small but vigorous concern known as Schaffer, Bunce & Co., who are doing a business in running gears, which is winning for the firm golden opinions, east and west of the Missouri River. The Lockport firm makes a specialty of a running gear for vehicles of from 600 to 3,000 pounds weight. This firm does not attempt to compete with the quantity production of larger makers, but in quality Mr. Bunce declares he will allow none to excel him, and that once an article made by his firm is sold, it not only stays sold, but gives entire satisfaction as well. The S. B. Company have had quite a run on their completed vehicles, which are shipped ready for the purchaser to instal any sort of motor he may prefer. They also make two steam engines for automobiles known as the Duplex and Compound, the latter being a new and up-to-date affair, which looks a winner all over.

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The writer called on Professor Sweet, of the Straight Line Engine Works, recently, and during some conversation Professor Sweet asked if I had seen the gasoline automobile, which was designed and made under the superintendence of that clever mechanical engineer, John Wilkinson. Professor Sweet declared that as far as he could see, Mr. Wilkinson had eliminated the two principal objections to the gasoline vehicle, noise and vibration. Professor Sweet, who is known the world over in mechanical engineering circles, was enthusiastic over the Wilkinson idea, and this coming from a man who was professor of the Cornell Engineering School for several years, is worthy of careful consideration.

"Now," said the Professor, "if Mr. Wilkinson can do away with the unpleasant odor which all gasoline carriages leave behind them, he will have overcome the trinity of principal objections to the explosive motored vehicle. Of course, you know it is not the gasoline consumed that makes the odor; it is the gasoline which, through imperfect combustion, is not fired, and then becomes mixed with cylinder oil, which causes the smell. In my old practice days, I used beeswax as a substitute for cylinder oil, and I found that doing so did away with a great deal of the odor. I do not believe

the beeswax would burn while the heat of the cylinder would be sufficient to melt it in the oil cups."

Speaking to Tom Midgley, of the Midgley Wheel Co., about what Professor Sweet said, Mr. Midgley, who has had considerable experience with gasoline motors, declared the Professor was right, and suggested that a mixture of beeswax and graphite would be about the right thing for cylinder lubrication. In any event, Mr. Wilkinson is going to try the beeswax idea, and as there is no Beeswax Trust—as yet—it may be that a new economy in maintenance is near at hand.

In Buffalo they tell a story of Howard Smith and Lawrence Gardner being held up by a farmer near East Aurora, because Gardner had bumped his Pierce motorette into the farmer's cow. The cow was not injured, but the farmer wanted some balm for the cow's feelings, which Smith admits must have been hurt, judging by the way the cow bellowed. The farmer grabbed a big rock and demanded that the automobilists stop or he would cause the stone to leave his hand and find a stopping place on some one's anatomy. It was here that the Smith strategy came in. He pulled a mammoth nickel-plated wrench on the farmer, telling him sternly if he did not drop that Goliath killer he would be shot dead; the rock was promptly dropped. Then the matter was amicably discussed between the farmer and Gardner, the farmer declaring he would not talk to Smith, because he had pulled a gun on him.

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The present experiments with steel for streets are, I think, most wise, and if the experiments result in something of the kind being adopted it seems to me we will thus gain the cheapest and most lasting of all streets. There is no question that loads can be drawn over a steel road easier than over any other form of road construction. The streets can be easily drained, and the climatic conditions will not affect them, as is the case with asphalt. I would like to see a steel road from New York to San Francisco, a sort of Roman Appian Way, to which all roads will lead and be lost in the main artery. As an automobile road, the steel road would be the thing, and I question whether it would be any harder on tires than any other form of road construction. It is fortunate that a man like Charles M. Schwab is taking an interest in these steel roads. This great American, of course, has not lost sight of the possible market it will afford the steel trust.







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No. 10



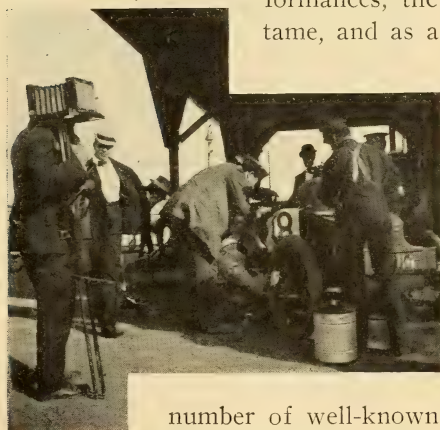
**T**HAT records fell by the wayside on the occasion of the race meet held at Brighton Beach under the auspices of the Long Island Automobile Club, was in no wise due to either the auspices or the occasion. It was a case of opportunity and an easy mark, and the opportunists re-marked the record slate; that was all.

There was considerable disappointment about the meet; thirty vehicles had entered, of which quite one-half were conspicuous only by their absence. Naturally, this robbed the affair of almost every semblance of a race meet, and left it more of a let-us-see-how-fast-you-can-go affair, which was neither inspiring nor instructive to the thirty-five hundred or more people who had journeyed to Coney Island with hopes of seeing some hair-raising, blood-tingling contests between world-beating vehicles. That was the press agent's tip, and it was the public's expectation; once more realization fell



In the five-mile event for light gasolene carriages the time of 8:30, made by Longuevez, is the best made by gasolene cars of under 1,000 pounds.

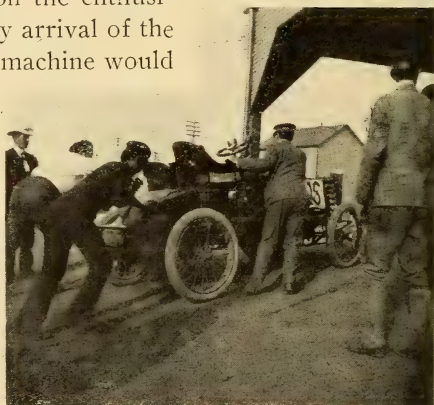
With the exception of the Cannon, Harkness and Howard performances, the whole affair was worse than tame, and as a climax two interesting events were declared off. One of these was the 25-mile race with lap prizes. In spite of this there were long pauses between the races and the finish was late. There was not a single close finish during the afternoon, if one expects the pursuit race.



The crowd on hand was one partly fashionable and a number of well-known drivers and turfmen mingled with the throng. The betting ring and the paddock were filled with the machines of visitors who had ridden in them to the meet.

Results showed that while records suffered some, the greatest injury had been visited upon the enthusiasts who had looked for a speedy arrival of the day when the horse as a racing machine would be supplanted by a pint of gasolene or a pound or two of steam. The facts and figures of the case were these:

One-mile heat race, for vehicles under 1,500 pounds.—First heat, steam carriages, won by Thomas Holden, Jr., Locomobile, 800 pounds; time, 2:01.



L. E. Holden, Locomobile, 1,800 pounds, second; time, 2:27 $\frac{2}{3}$ . L. A. Hopkins, Locomobile, 850 pounds, third; time, 2:31 $\frac{2}{3}$ . Second heat, gasolene vehicles.—Won by C. J. Wridgway, Peerless, 1,400 pounds; time, 1:39 $\frac{1}{2}$ . Jacques Longuevez, De Dion, 800 pounds, second; time, 1:51 $\frac{2}{3}$ . L. E. Holden, Waltham, 800 pounds, third;



time not taken. Holden finished three-eighths of a mile behind Wridgway. Final heat for winners won by C. J. Wridgway, gasoline, Peerless, 1,400 pounds; time, 1:38.

Ten mile free-for-all.—Won by H. S. Harkness, Mercedes, gasoline, 2,130 pounds; time, 11:54 $\frac{1}{4}$ . F. A. La Roche, Darracq, gasoline, 1,500 pounds, second; C. J. Wridgway, Peerless, gasoline, 1,400 pounds, third. Won by 1 $\frac{3}{4}$  miles.

One mile exhibition against time by J. W. Howard, steam. Time, 1:09 $\frac{3}{8}$ .

Five-mile race for gasoline vehicles between 1,000 and 2,000 pounds.—Won by F. A. La Roche, Darracq; Percy Owen, Winton, second. Time, by miles, 1:24, 2:42, 3:59 $\frac{3}{8}$ , 5:20 $\frac{2}{8}$ , 6:42; all new records for this class of machine on a track.

Five miles for steam vehicles, all weights.—Won by J. W. Howard, 1,400 pounds, Howard; Thomas Holden, Jr., Locomobile, 800 pounds; time, 9:05.

Five miles, for gasoline vehicles under 1,000 pounds.—Won by J. Longuevez, De Dion-Bouton; L. E. Holden, Orient, second; Time, 8:30 $\frac{2}{8}$ .

Unlimited Pursuit Race.—Won at 4 $\frac{3}{4}$  miles by H. S. Harkness, gasoline, Mercedes; J. W. Howard, steam, second; F. A. La Roche, gasoline, Darracq, third; time, 6:18.

Obstacle Race.—Won by W. F. Murphy, steam, Locomobile; time, 1:51 $\frac{1}{8}$ .

Trials Against Time, by G. C. Cannon and H. S. E. Harkness in steam vehicles. Cannon's time, 1:07 $\frac{3}{8}$ ; Harkness's time, 1:09 $\frac{1}{8}$ .

### As They Motored Along

"I love you, dearest girl!" he said

"Oh, be mine!"

She handed him her card. It read:

"Ida Kline."

## He, She or It

**F**RENCHMEN, who alone seem to have time for such discussions, have wasted considerable energy in trying to decide exactly what the gender of the automobile is. In an endeavor to aid them in this, to Frenchmen, highly important question, the Académie Française undertook to finally determine the matter, and has now officially declared that "he" is the proper pronoun for the automobile. This, in spite of the fact that yachts, steam engines and other inanimate means of travel are "shes" according to popular usage.

Judging from the irresponsible and illogical actions of some motor vehicles when allegedly they are under control of novices to do the unexpected, "she" seems to us to be eminently suitable. However, there is already trouble enough between the sexes, and perhaps the best way out of the whole affair would be for the Frenchmen to follow our example and henceforth refer to the automobile as "it." Then it could be "he" or "she" according to "his" or "her" nature.

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## One More Drawback

"This automobile game is a failure, so far as courtship is concerned."

"Why?"

"With the goggles he wears a girl can't look the man in the eye to see whether he is in dead earnest or not."

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## An Evening Ride

Out o'er the thronged pavements,  
Dodging now car, now cart,  
Silent as night in the desert,  
Yet of the boisterous mart.

Leaving the roar of traffic,  
The smoke-roofed, stone-walled street,  
On to the boundless prairies,  
Where earth and heaven meet.

'Twixt the sunflower's bordering yellow  
Or horizonless fields of green,  
Brushing the startled quail brood,  
Reflecting the low sun's sheen.

On to the mound, tree-fringed,  
Where the evening's softening light  
Kisses with longing its earth love  
Asleep in the arms of the night.

—HENLEY MORTON, Abilene, Kans.





**"A** SELF-WINDING automobile? What a ridiculous idea!" exclaimed Abner Fenton, and added, "you might as well talk about a gasoline watch."

"My dear sir," responded the inventor, with some acerbity, "a blind pup does not know much about astronomy, and I opine that your knowledge of mechanics is likewise limited. The unthinking herd are prone to say that the man of advanced thought is a mental wobbler. A man with a flyblown brain once taunted me with being ahead of the times and, therefore, a crank. 'Back off,' I replied, 'you are behind the times, that's all.'"

"Mr. Fenton," continued the inventor, "let me put you wise. I'm not wriggling here to deceive any one, nor am I trying to revolutionize anything. My invention is simply an attachment that can be put on any vehicle without regard to the motive power used. It is, in fact, an auxiliary motor to be used when emergencies arise." The inventor stopped for a moment to ease his tongue and at the same time handed Fenton several drawings for examination.

"In outward appearance," resumed the inventor, "the device is an ordinary cylinder three feet in length and twenty inches in diameter. It can be attached to the body of a vehicle above or below as desired. Running through the center of the cylinder, which of itself is a light steel shell, is a shaft and at each end of this shaft is a sprocket-wheel carrying a chain that connects with a cog on the propelling gear. Within the cylinder around the shaft, equi-distant, are five rods carrying five strands of powerful coiled steel springs. There are fifty springs twenty-five feet in length to each stand, or two hundred and fifty springs in all, with six thousand two hundred and fifty feet of that imprisoned force that, for two hours or more, will do the work of a motor of three horse power.

"The springs are wound up or coiled by the vehicle itself as

it runs with, as it may be called, its waste power, as only one spring is wound up at a time. When the last one of the two hundred and fifty springs is coiled the emergency motor is ready for work. All of the mechanism in the cylinder is automatic, and because of its ingenious construction and its simplicity I call my attachment 'The Self-Winding Wonder.'

"If," concluded the inventor, "from any cause you need more power for your vehicle than the regular motor can supply, by turning a wheel on the cylinder you can put at work one or two or all five of the stands of springs. If your regular motor gives out entirely you can bring your carriage home safely in the two hours or more than the "wonder" will run if the power it supplies is carefully conserved."

To sell certain kinds of goods a man must either be a fakir or a hypnotist and as, perhaps, the inventor had the art of one and the gift of the other, he sold Fenton one of his attachments. As the vehicle that was to be reinforced was a light and low one, it was decided that the "wonder" should be placed on the body back of the seat.

Through love of excitement Fenton had become a daring automobilist, and through love of Amy Gilbert he had almost become a blithering idiot. He was ears-over-head in love with this summer girl, but his insight had failed to discover the state of her heart. She had a way of winning tenderness that was divine at times and between times was charming, gay or conventionally stately. Her changeable moods perplexed Fenton and his love remained undeclared. A man's egotism often shuts out the light of love and Fenton's regard for his vanity in case he failed to win his suit fostered failure through his lack of nerve to face the music. So he danced attendance on Amy like a school-boy lover and vainly strove to fathom her heart. He was blind to the fact that no man ever probed the depths of a woman's heart excepting with the scalpel of inflicted pain or with the magic wand of love unselfish.

Amy Gilbert was an up-to-date, self-contained girl who could distinguish between a manly man and a lobster man. She was not one of the follow-me-lad girls, but she was very attractive and men pranced in her train whether she would or no. In the end she mixed them up so badly that they fain would know whether she was unattainable or simply inscrutable. But she did not throw

down Fenton and let him enact the role of the silent lover without a sign that would urge him on to speak.

The automobile had its "self-winding wonder" in place behind the seat and Fenton and Amy were out for a long trial of its ability. Fenton had made up his mind that he would win or lose that day and was betting with himself whether he would or would not flunk at the very last moment. A propitious time had arrived. They were on a lonely country road and not a house interrupted the view. Fenton was about to say something when, unluckily, the carriage slowed down of its own accord. Evidently there was something the matter with the motor and the time was ripe to test the "wonder."

Fenton shut off the power and gave the wheel on the cylinder a sharp turn. Inadvertently he turned it fully round and let off the whole five stands of springs at once. There was a sharp crack and the cylinder burst apart lengthwise like an old coat rips up the back. Then came a crashing and tearing of steel, and in a second the air was alive with the two hundred and fifty released springs that, shooting high, gyrated and writhed and twined like maddened serpents. Amy involuntarily clung to Fenton for protection, and it suited him to put his arms around her and hold her fast. Now, as the springs recoiled, they wound around Amy and Fenton in ever-circling strands of steel that interlocked and kinked until the two were laced together with an unbreakable network of steel bands.

Amy was a mirthful girl and the ludicrous side of the affair drove away fear. Her face was very close to Fenton's and suddenly he pressed his lips to hers. "It is unmanly of you to take advantage of my helplessness," said Amy indignantly. "It may be so," replied Fenton, "but it is natural and human, for I love you with all my heart and soul. I was at the point of asking you to be my wife when this accident occurred."

"Did you spring this thing on me with intention?" interrupted Amy, still indignant.

"It was all the doings of that blessed inventor," replied Fenton, and then he said many things that need not be repeated here.

"Amy," remarked Fenton after a time, "since ours is a spring engagement wouldn't it be in form for us to marry in the autumn?"

"I will say anything," responded Amy, "if you will only get us out of this cage." Fenton braced himself and put forth a mighty effort but only succeeded in freeing his right arm. He pulled on



the lever and the motor, having gathered power while at rest, responded and ran all right. Night had overtaken the lovers and under the cover of darkness Fenton speeded for the home of the inventor. Upon reaching it the inventor, after considerable labor, removed the last of the springs and Amy and Fenton were clothed in their right minds, for during the time of their captivity they had been looney with love.

"Don't be glum," said Fenton to the inventor, "for it was my fault that the attachment was smashed. You may not catch on, but its unwinding wound me up to the pitch of harmonic symphonies. To-morrow I will send over the carriage to have a new "wonder" put on. I wouldn't be without one. Would you, Miss Gilbert?"

"No," replied Amy, softly. Her vision, luminate with the starshine of the skies, saw the smiling face of love resplendent amid the ruins of "The Self-Winding Wonder."

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### Yes or No

"Give me an auto," doth she pray;

"In the fashion I'd like to be,  
I'd love to ride the live-long day

In spite of your harsh decree!"

But, when he declines for lack of "dough,"

I fancy that you can guess

What the outcome is, when he says "no,"

And the lady whispers "yes!"

"You ride with your horse and with your hound

While I sit sewing all day;

You go to your club and pass around

The oldest of old Tokay!

And, when you come home, and 'draw the bow'

By fibbing—well, more or less,

Do you really think you can say 'no'

When your lady whispers 'yes'?"

"I'll forgive all your faults with pleasure,

Won't go through your pockets again,

I'll love you—I will, without measure,

(If that auto I can attain!)

And what care I for a furbelow,

A new spring bonnet or dress,

If you will only alter that 'no,'

When your lady whispers 'yes'?"

# Where Knowledge is Power

GEORGE E. WALSH



**O**NE of the most disagreeable features of an automobile trip through a new country away from any large town or city is a breakdown where there is no one in the neighborhood who seems to understand the first principles about mechanics. The amount of dense ignorance shown even by some workmen in country repair shops is appalling. A trifling accident to an automobile may often be repaired by a skilful workman inside of half an hour, while a bungling mechanic will work hours at the job and do no good.

The driver of a horse-drawn conveyance has any number of wagon repair shops and horse-shoeing establishments scattered all along his route where he can apply for assistance if anything happens to either horse or equipage; but the automobilist is much like the mariner who starts out on an ocean voyage. He must depend upon himself for all repairs, and if he cannot do this he may be stranded at any moment without hope of immediate help.

Until adequate repair shops are scattered over the country, it should be the purpose of every chauffeur or owner of an automobile to thoroughly familiarize himself with every part of the mechanism of his vehicle so that he can make ordinary repairs on the road himself. It is for this purpose that a kit of tools is always carried with the vehicle, and if one understands how to use them he will be as independent as the aforesaid mariner on the high seas.

The average bicycle rider who makes a long tour through the country carries with him a full knowledge of the construction of his machine, and with the few simple tools in his bag he can make almost any imaginable repair to the wheel or tires. It is this preparation for any emergency which makes him an independent rider through a strange country where the wheel is a novelty and repair shops an unknown quantity. There is no good reason why an automobilist should not be equally well equipped with a knowledge of the working mechanism of his conveyance, since the automobile, after all, is not a complicated affair. Its machinery is really simple

in design and operation. A few instructions from an intelligent mechanic at the factory or repair shop will enable an ordinary man to do his own repairing in an emergency. Experimental work in taking apart different sections of the machine should be made a part of these lessons, and not until the manipulator can do this properly should he consider himself an expert driver of an automobile. There would be fewer accidents and breakdowns on the road, and far less troublesome experiences in isolated regions, if every owner learned the lessons of handling his vehicle by some such thorough method as this.

More than this, a mechanical knowledge of the driving and operating part of an automobile would prove a distinct advantage to any owner who wished to get the best out of his purchase with the least possible amount of wear and tear. The engineer of any vehicle who understands his machine thoroughly knows the difference between an expert and inexperienced driver. One will favor his carriage so that it will last nearly twice as long, and give more actual efficiency. There is such an important relationship existing between the life of an automobile and its daily handling that the question should be considered by every owner of a machine. If one trusts the driving of his automobile entirely to a hired man, it should be ascertained beyond doubt that the man is thoroughly competent not only to drive the vehicle skilfully, but to take it apart and put it together again.

There are only a few levers and wheels to manipulate in driving an automobile, and one can in a short time easily become quite expert in handling these. The vehicle can be made to go slow or fast, and to turn sharp corners with comparative ease. One may even become expert in dodging wagons and pedestrians while proceeding at a fair speed. But such efficiency should not constitute the full lessons of the chauffeur or of an owner who intends to drive the automobile himself. There should be a comprehensive understanding of the nature of the whole mechanism.

It may not have occurred to some that there is almost as much individuality in a motor as in a horse, but it is a fact which cannot be too highly appreciated. One will show a crankiness in running that will puzzle its builders, and another will run so smoothly and uniformly that it will prove a delight to its owner. Nearly every machine has its weak points, and it is the duty of the driver to find these out and to favor them just as he would a high-bred roadster



who possessed some slight defect which otherwise did not affect his standing as a good animal.

The amateur and the novice always start and stop a machine by a series of short jerks, which is a strain to the mechanism; in fact, many drivers, no matter how much experience they have, never quite overcome this novice-like method, simply because they do not understand the nature of their iron steed. If half the accidents and breakdowns to automobiles could be classified, it would be found that a great majority of such misfortunes were due either to poor driving or to the neglect of some slight derangement in time to avert the disaster. Occasionally the fault is with the manufacturer, and again it is with freaks which no possible foresight could have averted. These accidents, however, can be dismissed from the present discussion because they will be gradually remedied through the combined efforts of inventors and manufacturers. Those resulting from ignorance or carelessness are the ones always the most aggravating. They are as irritating as a delay caused by forgetting to fill up the tank with gasoline before starting on a long trip.

Creaking springs and groaning mechanism are the most common accompaniments of ill-kept automobiles as they proceed along the public thoroughfares. Oiling does not suffice for this, and the incompetent driver waits for a favorable opportunity to send the vehicle to some repair shop, there to discover the cause of all the noise. A man with a fair knowledge of the construction of his automobile could find out the cause of the noise in five minutes, and remedy it as quickly. The neglect which ignorance allows to progress means eventually a bill for repairs that astonishes the man who has to pay it. It also means the shortening of the useful life of the automobile by many months. A fractured axle is more often due to unskilful driving than to faulty construction. When driving over a hard, rough road the axles are strained to their utmost, and if the driver does not know how to negotiate obstructions he is in a fair way to break something. He may proceed in this careless way a dozen times without meeting with accident, but the thirteenth time he may pay for all. Each successive strain has tended to weaken the axle, until finally a slight extra burden cast upon it causes the mishap.

It would be hard to convince one ignorant of the reasons for this that he was the sole cause of the unpleasant experience, and that nothing save his faulty operation of the machine was to blame

for the breakdown. Such experiences rarely happen to the expert operator who knows the principles on which his machine is constructed, and has gone below the mere surface instructions in his driving of an automobile. The man who is not the master of his vehicle is in no position to accept anything as due to his ignorance and inexperience. The blame is always laid to the machine.

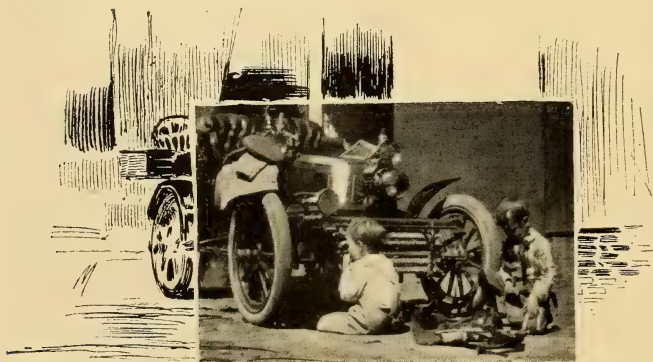
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### The Scorcher

Hurry,  
Scurry,  
Off with a flurry,  
Dodging the cable cars,  
Pushing his way through the thoroughfare  
With many a jolt that jars.

Speeding,  
Impeding,  
Others unheeding,  
An oath for those who protest;  
A laugh for the pedestrian he brushes aside,  
And never a thought for the rest.

Dashing,  
Splashing,  
Nothing abashing,  
Over streets all slippery with slime;  
Then an extra spurt and a finishing jerk,  
And he saves a minute of time.



# The Story of Number 134

*(Begun in September Issue)*

NED WILLSON

**R**ESCUEING the automobile from the bed of the creek with the assistance of two brawny farm hands and a team of horses, and cleaning it of its coating of mud, provided the Chief Prevaricator with amusement for the balance of the afternoon. The office boy having arrived, in response to a telephone message, with clean raiment, he was soon presentable. A hasty inspection showed no further damage than a few broken spokes, although how he escaped a buckled wheel or even worse damage is hard to see. Careful running brought him back to the city that evening about eight o'clock without further misadventure.

The following morning, true to his promise, his companion of the day before was on hand and waiting for him when the C. P. arrived at the office.

"Morning, sir!" greeted the oil man. "Have much trouble getting home?"

"Oh no. It was kind of hard work pulling out of the creek, but there wasn't any damage worth speaking of and I'm all ready for a ride this morning, so soon as my man gets the balance of the mud cleaned off of her. And while he is getting it into presentable condition suppose I introduce you to a few more levers and things."

"All right! 'Barkis is willin'.' I'll get it through my head if it isn't too badly clogged up with mud."

And so they spent the next hour on the catechism of the automobile. All went smoothly until they came to the igniter, the explanation of which the oil man made his instructor repeat several times.

"Well, now, say, Mister," he asked him finally, "where do you get your electric juice to fill up them cans? Do you have to put it in while she's hot?"

"Oh no!" replied the C. P., repressing a smile, "you simply throw away these old batteries and put in new ones if your current gets too low. It is a good plan to always carry with you an extra battery in case the one that you are using should give out for any reason."

"Oh, I see!" replied the pupil. "You buy the stuff already canned and don't have to burn your fingers filling 'em up. I knew



a fellow up our way once got to fooling with some of this electricity and he was filling one of these dudads when he spilt the stuff on his clothes and you ought to see the holes he burnt through 'em."

"Well, I never heard of it doing that, but anyhow these are sealed up and nothing can get out to do any damage."

"Say, how do you take hold of these here cans so they won't burn you?"

"Why, there's nothing hot about them. Look here," answered the Chief Prevaricator, placing his hand on the top of the battery.

"Well, then, what made you jump so yesterday?"

"Oh, I got hold of one of the plugs that is attached to the jump-spark end of the coil. You should never touch that part of it when this little handle is turned on the switch to the point marked 'ON.'"

"Oh, this is that other kind of electricity you was telling me about, ain't it? I suppose they call it the jump-spark because it makes you jump."

"No, not exactly that," answered the agent, smiling and removing one of the ignition plugs. "Here you see these two little platinum points with a gap between them. Now ordinary electricity won't pass between two wires unless they are touching. That is because the pressure is too low. The jump-spark coil which you see here raises the pressure so that it will make the current jump this gap, and that's why it is called a jump-spark. Now I'll lay the plug on the engine and you may keep your eyes on it and your hands away from it while I turn the engine over. Notice that every time the engine gets to a certain point in a revolution, this little spark jumps across the gap, and as it is inside the cylinder it explodes the mixture of vapor and air."

"Say, how about these explosions? Ain't they likely to do some damage?"

"Goodness, no, man, that's what makes the engine run. Gas engines don't explode. They leave that to the gasoline stove."

"Say, about these wires you was telling me a little while ago; this is the negative wire, isn't it, going up to this screw, and this is the affirmative wire going up to this other screw?"

"No, no; you're twisted all around. This is the negative wire going over here and this is the positive wire, not the affirmative."

"Guess I did get twisted that time, but I always thought negative and affirmative went together."

"Not in electricity."

"Say, have you got plenty of gasoline this morning? I'd like to get hold of those levers myself if you can find a road broad enough. I never steered anything more ornery than a baby mule. I don't know whether this critter would understand my gee-haw or not."

"Yes, we've got lots of gasoline. I had the tank filled when I started back yesterday as I was fortunate enough to find some gasoline at a country grocer's. The tank had emptied itself through the vaporizer while it was roasting on the bank, and I was pretty near stumped for fuel to get home on. I guess she's pretty clean now, so I'll take you out on the boulevard and when we get to a quiet place I'll let you learn to steer."

About three miles out they found a stretch of road of good width and level, where the teacher and pupil changed sides, and with the transmission at the eight-mile speed the machine began a snaky course under the guidance of the parvenu. The agent had been carefully instructed at the factory to be very chary about allowing a beginner to have full control of the machine and to allow him only to steer, so he kept his feet on the brake and the clutch lever in order to be able to stop the machine at any time. It was well that he did so, for they had not gone more than half a mile before, for seemingly unaccountable reasons, the machine made a sudden swerve to the left and crossing a shallow ditch started to climb the grade to the trolley track.

"Whoa! Whoa! Gol darn ye, stop! Hold 'er mister, hold 'er!" But the request was hardly begun before the clutch was thrown out and the brake was hard down. "Well, I nearly did it that time. Guess I must have forgot which way to turn the wheel. I was just trying to keep from going into that ditch, but the blame thing went the way I didn't want it to go."

"Oh, that's nothing," was the reply; "you'll catch on pretty soon. Just let me back her into the road again and then you can try it over."

Once back in the road the oil man took the steering wheel again and all went well until they got near the scene of their mud bath of the day before. "Look out for dead horses," warned the C. P., as they crossed the bridge, but the road was clear. However, in turning to glance at the scene of the previous day's accident the steersman nearly made another break and only the quick action of the agent saved him from running into a passing team.

"Nearly a wreck that time," admonished his instructor. "One of the first things you must impress upon your mind is never for an instant take your eyes off of the road ahead when you are steering an automobile. Reversing the old maxim, a broken neck may be the price of lack of vigilance."

"I guess that's right, my friend; I'll just keep my nose straight ahead of me hereafter."

"Another half hour's ride brought them to a long stretch of level road with no teams in sight. Slowing the engine down the C. P. threw in the high gear and then gradually opening the throttle and advancing the spark, he had the vehicle going at its maximum speed before the oil man realized the change. He let the carriage run for some time before calling his pupil's attention to it. "Seems to steer a good deal easier," remarked the helmsman, after they had made about a mile and a half at a two-minute clip. "Guess she's getting used to me."

"Yes, an automobile always steers easier when it is going at full speed. Do you know how fast we are going?"

"No, but I noticed she was kind o' picking up a bit. Guess it must be about twenty miles an hour, ain't it?"

"No, you're something over ten miles out of the way. We are moving at a little over thirty miles an hour."

"You don't say! How can you tell?"

"Oh, that's easy. The trolley poles are 100 feet apart and the number you pass in sixty-eight seconds gives the number of miles an hour. It's funny, though, about your guess; most everybody guesses about ten miles too much. Well, here comes a grade. Now, I'll show you how to climb it. It is too much for the high gear and I'll throw in the intermediate. First, press your foot on this lever to throw out the clutch, as you must not try to change the gears when the clutch is in, for it would strip the teeth. You couldn't do that anyway on this machine, as it is so arranged that you must throw the clutch before you can move the gear transmission lever. Always throw in the gears slowly at the start in order to make sure that your clutch is free and then you will not do much damage if for any reason the clutch is stuck. Now when I release the clutch you throw the outside lever back against the stop or until it catches and then throw the inside lever forward until the latch catches in the middle notch."

The previous climb up the trolley grade had made the instructor cautious and he took hold of the steering wheel with one hand



and kept his eye on the road ahead while he threw out the clutch. As he anticipated, the oil man took his eye off the road entirely to watch the clutch lever. He fumbled around for what seemed a long time and finally announced, "I guess that's all right now," and the C. P. released the clutch lever, when both the carriage and the engine stopped at once.

"Well, gol darn my skin! What's the matter now?" asked the steersman anxiously.

"Guess we better get out and look," replied the agent, and stepping to the front he unfastened the hood and laid it on the grass. Then he examined the engine with a critical eye, and seeing nothing wrong, he released the clutch and gave the starting crank a couple of turns when, to his surprise, the engine started and ran in good order. Replacing the hood he took the driver's seat and allowed the clutch to take hold gradually. His astonishment was even greater to see the vehicle start backward, and a glance at the levers showed him that the oil man had thrown in the reverse. Swearing softly, *sub rosa*, he threw in the intermediate gear and went on up the hill.

It is needless to tire the reader with an account of the numerous "breaks" the pair made during the balance of their trip. Good luck was with them, however, and they reached the agency that evening without serious mishap. The man from the oil country was apparently well pleased with the result of his day's outing, and at the close of a good dinner, at the agent's expense, No. 134 changed hands, in spite of the protests of the agent that he wanted the machine to demonstrate with and that a new one should be sent to his customer from the factory. But the oil man was obstinate and seemingly fearful that a new machine would not be as good as No. 134, so rather than lose his sale the deal was closed, and next month the scene of this story will be transferred to the home of the owner.



## When the Unexpected Happens

“**W**HAT does it feel like to have a bad accident?” said the converted scorcher, as he sat in the club talking speed mania with the youngsters. “Well, it isn’t so easy to describe the two or three hundred sensations you have all crowded into a second or so of time when you leave the vehicle, and while in the air wonder when and how you’ll land. I remember the first year I was in the game, and I thought the old steam runabout and breakdown I had was a world beater, I was coming home from the Larchmont club at the terrific speed of certainly fifteen miles an hour. Of course you fellows who never think of doing less than double that will laugh at me saying I was scorching, but I was—for those days and those steamers.

“Just before I got to New Rochelle I remember being lifted out of the seat by my running smack into a big chunk of building stone which some careless and lazy teamster had dropped right in the center of the road. As I felt myself shooting through space my first sensation was a shiver down my backbone, because I recognized that the affair was going to have a more or less serious ending in which I was billed for the star part.

“Half a dozen crazy ideas chased themselves through my brain before I picked myself up twenty feet along the road. My first thought was about that precious old tea kettle, but quicker than lightning came another, ‘I wonder if I am badly hurt?’ Then I felt blood oozing down my forehead and blinding me.

“The next sensation was a whirl of everything. Road, trees, lights and some people who had rushed out of a neighboring cottage when the smash came, all seemed to be circling around at a terrific pace. Then a mist began to creep up before me; it got darker and darker; I made a wild clutch at the fence—then I was down and out.

“They told me, when I came to about an hour later, all this happened in less than a minute—to me it seemed centuries. After that experience I concluded that I and the speed mania had to dissolve partnership right there and then, and we did. What will happen to you youngsters when your time comes at the rate you travel is a bit too awful for me to even think of.”

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It is a wise child who goes out of sight to laugh when his father proceeds to investigate why a carburettor don’t carburett.

## As Seen Seventy Years Ago

**A**S far back as 1831 Parliament appointed a committee to examine and report upon the practicability of a road vehicle which would depend upon steam for its motive power. In the light of the present, the report of that committee of seventy years ago is entertaining. The committee reported:

That carriages can be propelled by steam on common roads at an average rate of ten miles per hour.

That at this rate they have conveyed upward of fourteen passengers.

That their weight, including full water and attendants, may be under three tons.

That they can ascend and descend considerable inclines with facility and safety.

That they are perfectly safe for passengers.

That they are not (or need not be), if properly constructed, nuisances to the public.

That they will become a speedier and cheaper mode of conveyance than carriages drawn by horses.

That, as they admit of greater breadth of tire than other carriages, and as the roads are not acted on injuriously as by the feet of horses in common draught, such carriages will cause less wear of roads than coaches drawn by horses.

Despite all of these obviously true assertions Englishmen and the rest of the world preferred to wait almost three quarters of a century before they turned from the animal to the auto, and they are not showing any overwhelming alacrity even now in making the change.





## First Pneumatic Tire

JAMES P. KENSEY

**N**OTHING is new, not even the pneumatic. As far back as 1846, William Thompson, an Englishman, took out a patent for an inflated tire. It is an interesting fact, and somewhat of a reflection upon British progressiveness, that while Mr. Thompson's invention was very thoroughly tested and was shown to have great advantages, so far as a reduction of tractive resistance was concerned, over the ordinary form of tires, yet it was not deemed of any practical use until more than forty years had elapsed; then the Irish horse doctor, Dunlop, took it up and made fortunes for a host of promoters and a competence for himself.

In 1847, a carriage fitted with pneumatic tired wheels was drawn over a stretch of road in Regents Park, half of the distance traveled being firm and smooth, while the remaining half was covered with newly broken stone. The tractive resistance on the smooth portion of the road was shown to be but twenty-eight pounds with the pneumatic tired wheels while it was forty-five with the ordinary tires. On the newly macadamized portion of the road the pneumatics showed a tractive resistance of thirty-eight and one-half pounds against one hundred and twenty pounds called for by the ordinary tires.

It was proven that even the very crude inflated tires then used stood the wear extremely well, considering the manifest advantages they offered, as the vehicle with which the experiments were made had been driven more than 1,200 miles over every kind of road, and the tires were still in excellent condition.

The first Thompson tires had inner tubes of soft rubber and outer covering of leather to protect them, but in 1849 the leather shoe was replaced by a rubber one, which was thickened on the tread until the result was a tire to all intents and purposes exactly like the one in use to-day.

It may have been the innate dislike of Englishmen for innovations that prevented the rubber tire of fifty-five years ago from having the success then that it is to-day, or it may have been that horses, not human beings, profited then by the ease of traction that the pneumatic fifty years afterwards gave to man who was then as a bicyclist playing the part of his own horse, but be the cause what it may, the whole thing is a peculiar proof of how slowly the world does move.

# Automobile Insurance—Fire

*(Second Paper)*

DIXIE HINES

THE most universally discussed phase of the underwriting business at this time is that of automobile insurance as it affects the fire insurance companies. For the past several months this question has been discussed by the trade papers having to do with automobiles, as well as those papers which are supposed to represent the views and opinions of the underwriting fraternity. In neither, however, has a satisfactory adjustment of the generally misunderstood question been reached. The automobile papers naturally assume to represent the insured, and, in consequence, these advocates see only one side of the question, and that the one where the insurance companies appear in an unenviable light and the automobile owners are posed as oppressed martyrs, suffering for the sins of imaginary individuals and to the end that the companies may declare larger dividends to its stockholders. One automobile journal, in its extreme effort to deal to the insurance companies a fatal blow in retaliation for what the editor alleged was the companies' unjust attitude toward the automobile owner, has suggested the formation of a mutual insurance company to take over all automobile insurance on a mutual basis. Such a suggestion could only emanate from one unfamiliar with the conditions, and must be ascribed rather to overzealousness than to superior wisdom.

It was "Old Abe" who coined a twin aphorism to his now famous "Don't swap horses while crossing a stream," which is peculiarly applicable to the present situation in fire insurance circles. "A leaky boat will leak, no matter how swift the oarsman," President Lincoln said at one time, and this sums up the situation concisely, aptly and truly, as it relates to automobile insurance. No matter who issues the policies, the conditions remain just the same, and if there is to be an improvement, it will be due, not to the men, but to the methods, and these methods are not methods of the fire insurance companies, but rather the methods of the beneficiaries under the policies issued. So long as more attention is paid to protection than to prevention, just so long will it be difficult to secure protection except at high rates, if at all.

Like other forms of insurance, fire insurance must be conducted upon absolutely scientific principles to be successful—and by successful is meant profitable both to the insurer and insured.

Fire insurance rates are based upon more than 1,000 special conditions in nearly every case. The average policy holder doesn't realize what it means to promulgate a rate on a given piece of property or the contents of a special building. Before it can be determined just what rate is charged a careful inspection of the property is made, and there is not the slightest contributing factor which escapes the scrutiny of the inspector who makes the survey. The construction of the building, the age and quality of the material used in its construction, the openings which might make it dangerous to fight in case of fire, its adjacency to other buildings which are inferior insurance risks, the protection afforded against fire, the use to which the building is put and the moral hazard of the owner, are only a very few of the many hundreds of matters to be taken into consideration. It will be seen, therefore, that there is no guesswork in insurance, and when a rate is charged for a particular class of risk it is due to a careful consideration of this particular risk as an insurance hazard, and the rate is determined only after it has been carefully revised and built up on generally accepted lines.

As is the case with liability insurance, fire insurance is based primarily upon the expense of carrying a certain risk. This expense, after an examination of the property itself, is finally determined by consulting the experience table, which is a carefully tabulated and invaluable record of the experiences of the predecessors of the present insurance companies. Naturally, with a class so new as the automobile and its appliances, the rules of experience cannot be applied, nor can the companies devise acceptable rules to govern these conveyances at so early a date, since this can only be the result of experience in writing insurance for years and considering every phase of the hazard. Therefore, the companies at this time are endeavoring to so adjust their rates and restrictions as to make them acceptable to the insured and profitable to the insurer. It is not infrequently the case that both parties to an insurance contract are dissatisfied eventually, and it is not unknown among the insurance companies when the insured gets all the better of it. This is not less frequent than when the insurer receives what is aptly termed in the parlance of the day, "the short end of it."

At the present time there is an almost hopeless minority of insurance companies writing this class of business. A very large proportion of the companies prefer to wait until their more courageous and enterprising, if not wise, competitors build the foundation for safe underwriting. The only reason ascribed by a large majority



of the prominent operating companies for prohibiting automobiles is tersely expressed by the managers as because they are "unprofitable and extra hazardous." Those companies at present engaged in writing them are in an unsettled state of affairs, and their restrictions and rates are in consequence as fluctuating as stock exchange prices. The necessity for fire insurance is so great that, unlike other forms of insurance, one does not have to point out the advantages to be derived from ample protection against loss or damage by fire, the chief thing being the rates charged and the form of policy issued.

From an insurance point of view these considerations are arrived at by a consideration of the risk under two separate headings; first, the hazard of the automobile itself and the proper rate and form of policy to apply; second, the increase in the hazard of the building in which the automobile is stored. To consider the question of the automobile as a risk, it is necessary to divide it into as many different classes as there are accepted motive powers. At present, there are electricity, gasoline and steam, which, by underwriters, are considered with favor in the manner in the order above enumerated. Electric vehicles are naturally preferable risks, and when they are stored in a given warehouse or stable there is no appreciable increase of rate, the only difference between the classification of the building before and after the electric is stored being the requirement of what is known as the "dynamo" clause. This clause, in effect, means that the company will not assume any risk of loss or damage caused by electricity, either artificial or natural, and as adopted by the New York Fire Insurance Exchange, is as follows:

"This insurance shall not cover any loss or damage by dynamos, excitors, lamps, motors, switches, or any other apparatus for generating, utilizing, testing, regulating or distributing electricity, caused by electric current, whether artificial or natural."

Protected by this clause owners of electric automobiles stored at a given point should not find it difficult to obtain sufficient insurance to cover the conveyance by applying to any of those companies which assume the risk of automobiles.

Explosive motored vehicles are first considered for the effect of gasoline itself which is prohibited, except by special agreement, under all insurance policies. There must be considered by the insurers, first, the quantity of gasoline in the conveyance itself, and the safety from igniting, which is best secured by the sealed metal

reservoir within the machine. For this risk companies generally charge only a small advance over the electric machine, using that style of vehicle as a basis for determining the premium and the hazard of the risk. Whether or not a special clause should be required in effect as the dynamo clause above quoted, is a mooted question. Many companies deny liability by a special clause when fire originates in the carriage itself, and so far as this is concerned it is a manifest injustice to the insurer. Permission is frequently given by companies for the use of gasoline stoves in dwellings and stores, and it would be manifestly absurd to assume that companies are not liable for damage done by these necessities. If this permit is given house-owners without charge, there should be no charge for an automobile, since the latter is much better protected than is the stove in a dwelling. Some companies take this view of the situation and others insist upon the eliminating clause, which, at present, is a serious bone of contention between the two parties interested.

When it comes to the steam vehicles, a series of obstacles confronts the insurer which are not easily overcome. To the standard rate charged for the electric vehicle the companies add the charge for gasoline in bulk, owing to the increased hazard due to the pressure tank containing gasoline under an air pressure of from 40 to 60 pounds by which the gasoline is forced into the burner; and, what is more to the point, the presence of a naked flame which, should any derangement of the regulator or a leak occur, would be likely to create a blaze of dangerous extent. To this extra hazard must be added others. The companies assume that the continued flow of gasoline, when the flame is extinguished, and the method of igniting are among the most serious.

In a steam carriage the companies theoretically—for there are few who will put into practice the theory which can only be done by the insurance of policies—insist upon the clause which restricts their liability to loss or damage due to fire originating other than within the machine itself. Steam vehicles, however, when in use are seldom accepted by the companies, and while many of the companies have theories regarding the methods to be pursued in the event such policies were issued by them, there are few of them brave enough to practice their theories themselves.

Naturally the question of class of building in which the vehicles are stored enters into the make-up of a rate, the instances cited above being considered with the rate of the particular building as

a basis. If automobiles are kept, for example, in a stable, where such inflammable matter as hay is stored, the combination would make it a serious hazard, indeed. There are, in every risk, many such details as the above which are peculiar to that particular policy and which cannot be discussed intelligently for the reason that there are seldom two cases exactly alike.

If owners of automobiles, in constructing their storage warehouses or garages, would make the question of safety paramount by absolutely prohibiting the storage of gasoline within the building, it would naturally decrease the hazard of the risk. Gasoline is a dangerous fluid to have about, and arrangements might easily be made to store it in a specially prepared cellar distant from the stable such as one of your advertisers plans to do.

The most popular form of insurance issued on automobiles under the classification of fire insurance is that known as the "floater" policy, a form of policy which affords owners of machines protection against loss or damage by fire to the machine wherever it may be within a given territory. Policies are issued as a rule to cover a given building, under a single situation. When the owner is on tour, however, his policy becomes naturally inoperative until the conveyance is once more within the building given as the location. As touring becomes more and more popular, this floater policy keeps pace with the new conditions. The rates charged for it are not nearly so high proportionately as are the standard stationary policies, since the increased hazard of a floater policy is a matter of serious conjecture, consideration being given to the possibility of a number of such insured automobiles being housed within the same building at a given time, thus making the risk assumed by a single company greater than prudence would warrant. Again, covering as they do the entire state or states enumerated in the form, the possibility—indeed, the probability—of storage in unprotected stables, poorly constructed buildings or insufficiently protected warehouses makes the issuance of the policies a serious matter, indeed. Many companies decline to include the Metropolitan District within the terms of such policies in view of the fact that quite a number of the storage warehouses within this district are, in themselves, owing to serious defects in management and construction, charged a rate almost as high as the floater rate. In many of the country storages where the material is of the flimsiest nature, the companies are compelled to assume a risk under a floater policy which would be absolutely prohibited under ordinary circumstances.



The floater policy is by all means the most popular form of fire insurance, and is, to every cautious owner of an automobile, as much of a necessity as is insurance on his own home. In fact, it is of more importance, since he is cognizant of the defects of his personal property and real estate and can guard against possible loss, but in touring from town to town, city to city, and village to village, he is constantly compelled to assume the risk of storage in a building where the danger from fire is often very great, which risk in the case of an expensive automobile is more than any sagacious owner should be willing to assume.

The terms of the floater policy permit the owner of a vehicle to tour within the state of New York and many others, but owing to the stringent insurance laws of many of the states which forbid the issuance of an insurance policy which is to operate therein except through the offices of a state agent, this makes it necessary for the owner to take out special policies in these states when he is touring within their borders if he desires the necessary protection.

It would be manifestly impossible to quote the rates charged for such policies for the reason that the rates are of such a fluctuating nature. Many vehicle owners are willing to pay any rate charged by the companies for such a policy, and the question in the past has been not at what rate will the policies be issued, but rather can sufficient insurance be secured at any rate? Very few companies will assume a liability on any single vehicle of more than three or four thousand dollars, and when a vehicle is valued at a higher figure than that, it is necessary to divide the amount up among all the companies writing policies. As the number of such companies is very small indeed, it is not infrequently the case that the assured finds himself sadly lacking in ample protection after the broker makes a report. This is especially true of floating policies, because the companies have no way of determining whether or not the different owners will at a certain period store their conveyances together, thereby increasing the risk of each company beyond the point of prudence. Again it must be remembered that while the steam vehicle is the only one on the prohibited list, should such a vehicle be stored in close proximity with a gasoline or electric vehicle, these classes must necessarily suffer in consequence, and yet the company, while absolutely forbidding one class is compelled to assume the risk of such when stored near vehicles of another class insured under their policies. It will thus be seen that the company

is beset by many adverse conditions which makes automobile insurance hazardous, to say the least.

For the benefit of possible insurers copies of the standard forms used by the New York Fire Insurance Exchange will be included. This exchange controls the underwriting fraternity of the Metropolitan District only, and its rulings and clauses may not be accepted by exchanges of other sections, but it may be taken as a fair criterion of the safeguards proposed by the companies for their own protection. These clauses are attached to regular policies under the several conditions, principally when policies cover gasoline machines only. They also refer to the rate charged in addition to the standard rate.

"For privilege to keep not exceeding one such vehicle (propelled by the use of gasoline, naphtha or other hydro-carbon oils) in a private stable with warranty to keep gasoline and fill tanks in accordance with the New York Board of Fire Underwriters' requirements, 10c. per \$100.

"For privilege to keep not exceeding three such vehicles in a private stable or in a building not occupied for mercantile or manufacturing purposes, with warranty to keep gasoline and fill tanks in accordance with the requirements of the New York Board of Fire Underwriters, 25c. per \$100.

"For each vehicle in excess of three, with warranty as above, five cents additional, not exceeding a total charge of \$1.00 per \$100.

"For privilege to house not exceeding one such vehicle in a building occupied for mercantile or manufacturing purposes, with warranty that no filling of tanks or storage of gasoline shall be allowed on the premises, 25c. per \$100."

At a subsequent meeting of the rate committee of the New York Fire Insurance Exchange the discretionary power was permitted the members of the exchange to rebate fifty per cent. of the rates above quoted where, in their judgment, the risk was particularly acceptable.

The most popular form used in connection with an automobile, on both the stationary and floating policies, is as follows:

\$..... on one Blank Gasoline Automobile, No. 1313, including all parts, attachments, tools, implements, utensils, furnishings, fittings and supplies, while within the boundaries of the states of (here follows the states under which the policy is to operate).

The following clauses to be attached hereto and made a part of this policy: Lightning Clause, Automobile Clause.

Permission is hereby given to effect other insurance hereon without notice.

Should the policy be intended to cover only while the conveyance is in a stable or a warehouse, the words "all while contained in a brick stable, situate No. 711 44th Avenue, Borough of Manhattan, New York City," follows immediately after the enumeration of articles covered. The "automobile clause" is that before spoken of relating to the origination of fire within the machine itself.

In conclusion it may be urged that while insurance conditions are in a somewhat chaotic state so far as the automobile is concerned, the owner of a vehicle may rest content that if the existing conditions are bad they must in time be corrected, and the rates charged—the point of most interest to the owners—cannot remain at an unequal figure very long, when there are several hundred insurance companies ready to take a share of the business at any rate commensurate with the risk assumed if it is determined at a later date that the business is safe. It is impossible for rates to be unnecessarily excessive since competition for good business is too keen among the various companies to permit them to remain so long, and if they do remain at this figure it will be because other companies find it unprofitable and taboo the field. Fire insurance is one of our greatest sciences, and science will eventually remedy all evils.

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EDITOR'S NOTE.—This is the second of a series of articles on Automobile Insurance by Mr. Hines, an acknowledged expert in this line and an experienced insurance underwriter. The first article appeared in the September issue of *THE AUTOMOBILE MAGAZINE* on "Vehicle Liability." The next paper will deal with "Personal Accident," and will appear next month. Copies of the September number will be mailed upon receipt of price—twenty-five cents. The Editor of *THE AUTOMOBILE MAGAZINE* will be pleased to forward to Mr. Hines any inquiries from readers desiring further information about insurance on automobiles.

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### Half and Half

"I had a mind to buy a steam vehicle."

"You changed your mind?"

"Yes; I have now half a mind to buy a gasolener and half a mind to buy an electric."



## Touring Department



### New York-Phila. Route

THE NEWARK, CRANBURY TURNPIKE AND TRENTON THROUGH LINE.

**S**ITUATED apart almost exactly 100 road miles, New York and Philadelphia are twin centers of touring interest for the middle seaboard district. They are linked together by a highway system whose few through lines are all but lost in the multitude of local ones. The latter not only obscure the beginning and the end, but may lead to questionings at intermediate points. The mere number of optional routes for short distances along the way is more apt to hinder the progress of the unacquainted tourist with a straightaway idea in his mind than to appeal to his sense of variety. Nevertheless the trip is a good and an increasingly popular one, with a great deal to see and much to remember. It has the additional interest of being an essential link in the usual shaping of a tour to Baltimore, Washington and the South.

For about two-thirds of the distance (from the North River to the Delaware) the run is across New Jersey, thence over a corner of Pennsylvania. Though it can be covered in a day or less, the average tourist will not limit himself to that time. As the distance does not divide equally, in so far as accommodations are concerned, it is a good plan to reach Trenton the first night, making an easier as well as an earlier entry into the Quaker City on the following day. If the return is to be immediate and by the same route, however, it would not be at all difficult to complete the round trip back to Trenton on the second day and reach New York again on the afternoon of the third. This would give the two over-night controls at Trenton; otherwise the one over-night at Philadelphia would be the usual program.

Of the many ways out of New York to the South, the one via Newark is now and probably will continue to be the most com-



monly used, though it crosses the Jersey meadows over about five miles of the worst riding in civilization. It follows for the most part the New York division of the Pennsylvania Railroad, and regarded as the parent trunk line, it absorbs all optional beginnings before or at New Brunswick. Take any one of the three Pennsylvania Railroad ferries — Twenty-third, Desbrosses or Cortlandt streets, but in a great majority of cases, of course, the first-named—to their common terminus at Jersey City. Go out from the ferry house, and at the end of the (one) block, turn left into Hudson street. From this first corner it is possible to reach the Hudson County Boulevard on macadam and asphalt, and though it is somewhat of a roundabout beginning, it is well worth while. "To the Boulevard" and "No Trucking" signs help to point the way, and especially if one has a reliable map or some advance knowledge of it, little or no trouble will be experienced. On Hudson street, then—the first left turn from the ferry house—go a single block to York street, up York five blocks to Henderson, there turning right two blocks to Mercer street, bringing up alongside the City Hall.

Clear now of street cars and heavy traffic, one may increase speed up Mercer street, which is kept for a number of blocks. Pass under two pieces of elevated railroad track, then over a brick-paved

viaduct built to carry the road by an easy grade to the higher ground beyond. The change from Mercer street to Glenwood avenue is in name only, for after a straightaway run of three or four minutes, one comes upon the Boulevard—a broad macadam thoroughfare crossing at right angles. Turn left upon it, crossing at once Montgomery street, which of itself runs straight back to the Pennsylvania ferry. But it is stone-paved and the less direct route already described is therefore to be preferred for automobiles.

About a mile farther on, the Newark Plank Road, a car-tracked and at first a stone-paved highway, leads off squarely to the right. This heathen combination of plank, stone blocks and bridge work (over the Hackensack and Passaic Rivers) is the one direct way to Market street, Newark. It carries first into either Ferry street (left bend) or Bowery street (right bend), two connecting links to the same junction with Market street, which keep up past the Pennsylvania Railroad station to Broad street, the center of the city. On the way over, one has not only bad going, but must take chances with street cars and heavy traffic. Once across the meadows, however, the worst is over and the tourist is well placed for the balance of the run.

#### THE NEWARK-NEW BRUNSWICK PORTION.

Turn left from Market onto Broad street and continue two or three minutes' ride to Clinton avenue, a fine, broad, asphalted thoroughfare leading to the right alongside a small park. In two or three minutes more you come to where Astor street—a narrow asphalted lane for which it is necessary to watch—cuts squarely off to the left; this take and follow two blocks, when Frelinghuysen avenue will be seen to branch diagonally off to the left. This avenue (called at times also Newark avenue) is car-tracked all the way and not altogether good riding, but it is direct into Broad, the principal business street of Elizabeth.

The center of the city is marked by two large railroad viaducts, one (the Pennsylvania) above the other (Jersey Central), but at a different angle. The old route followed Broad street under both, thence ahead to where Rahway avenue branches off to the right. But this means several blocks of stone pavement, and it is much better for automobiles, just before coming to the viaducts, to turn right up Westfield avenue to Cherry street into Rahway avenue, joining there the old route out from Broad street. This



change provides good riding every foot of the way and cuts out the Pennsylvania Railroad crossings altogether.

Rahway avenue is now direct, only that it becomes St. George's avenue (in name), and goes around Rahway instead of down into it. In the event of going into this place—at least a half dozen approaches show themselves—it will be necessary to go back the same way; instead take West Milton avenue outward from near the railroad station, coming into St. George's avenue a mile or so farther on. The next two miles to Iselin are poor but passable, thence past Colonia Station, crossing the tracks two or three times on the way, and by Menlo Park to Metuchen. Through Metuchen, without turning right or left, it is a perfect road, with only easy grades, to New Brunswick. The latter is entered by a down grade to the bridge crossing the Raritan River and Canal into Albany, the principal business street. For all practical purposes this completes one-third of the Philadelphia run, 36 miles out from Manhattan.

#### THE NEW BRUNSWICK-TRENTON PORTION.

For the middle section there is at this time one thoroughly good route for automobiles, and that the Cranbury Turnpike. It makes at first a considerable dip south by east to Cranbury and Hightstown, then south by west into Trenton, and is several miles longer than the old road and path via Princeton. But it is a perfectly surfaced state road, which only snow and ice can make impassible; whereas the Princeton line is good going only in long-settled summer or fall weather. Tourists wishing to make the latter, however, will get from the dotted lines on the accompanying map the general direction and the names of the places passed through and, if the time be well chosen, a very interesting and picturesque run will result. But on account of its all-year reliability, the Cranbury Turnpike must be the standard route until the Princeton line is put into equally good condition—a project now under consideration by the State.

Leaving New Brunswick, keep Albany street to the business center of the city, turning left on George, the principal cross street. This follow until Commercial avenue leads up and off to the right, bringing into the hard macadam of the Cranbury Turnpike. Be sure to keep Commercial avenue actually into the turnpike, for the natives will usually dismiss your inquiry with the sole direction to "follow the trolley line." The latter gets there, sure enough, but by a route of its own, impossible for an automobile to follow.

Once on the pike the way to Trenton, though far from straight, clearly shows itself, and it is mostly open country through which fair speed can safely be made. Past the Red Lion and Black Horse taverns—memories of old stage coach days—the route passes within a half mile of Deans, the last station before Trenton on the main line of the Pennsylvania Railroad, then through Dayton, on the branch running east from Monmouth Junction. The next place is Cranbury, which gives its name to the turnpike—a quiet little town entirely off the railroad and apparently 100 miles from a stock ticker or a steam whistle; then Hightstown, the two connected by a horse-drawn stage.

Hightstown, the largest place as well as the central point on the turnpike, is also a station on the Camden & Amboy division of the Pennsylvania Railroad, and is entered by passing beneath the tracks onto the main street. Well up in the town the road forks at a fountain, two apparently good lines going out, one right, the other left. Take the right fork, which soon comes alongside the railroad tracks, and follow them without a break to Windsor. Here turn right, cross the tracks at right angles, and go ahead two miles to Edinburg, thence by a left bend into the last—and straightaway—stretch to the outskirts of Trenton. Just ahead of where the State fair grounds are seen over to the right is Greenwood avenue, a fine asphalted thoroughfare, slightly to the left at the beginning (with the car tracks), then direct through the best residence section, until it comes to an end, where North Broad street crosses at right angles. Here also Center street goes out diagonally to the left, which take for two blocks to Bridge street (the old First Baptist Church on the corner). Bridge street almost immediately closes down upon the Pennsylvania Railroad tracks, and it is necessary to cross them at grade, swinging up alongside at once for a narrow connecting link to the bridge entrance, 32 miles from New Brunswick and 68 miles from New York. Toll is charged foot passengers and all vehicles. The crossing is without special interest except that there is a fine view of the State Capitol and the upper city on the way over.

The Delaware, being an interstate boundary, you are at once in Pennsylvania, the exit being like the entrance along the railroad tracks until past the Morrisville Station. At the four corners just beyond, turn left on the Bristol pike, a fair-to-good but not an easy riding highway. Cross the tracks again at grade, then go under the viaduct upon which the new tracks will be laid, swinging

up on the other side for Tullytown and Bristol. Keep straight on—for a distance immediately alongside the Delaware River and never far away—into Bristol. When opposite the ferry to Burlington, on the Jersey side of the river, turn right, go through the business center of the town, taking the first left after another crossing of the tracks. This gives a clear route over Neshaminy Creek, past Edgington Station, into and through Holmesburg and Torresdale into Frankford avenue direct to Frankford, already a Philadelphia suburb, 25 miles from Trenton and 93 miles from New York.

Frankford avenue is likewise the first link in the final stretch into Philadelphia. Keep to the right, with the street cars, over Frankford Creek into Kensington avenue, which keep for a considerable distance. Pass shortly under the New York division of the Pennsylvania Railroad, and later over the Richmond Branch of the P. & R. After this last crossing, turn right into Lehigh avenue, which keep for about 14 squares into North Broad street, the junction being immediately above the Huntingdon street station of the P. & R. Here turn left and take North Broad street downtown, about three miles on excellent asphalt, to the public buildings, the center of all things in the Quaker City. It is almost exactly 100 miles from New York, and automobile storage and repair stations are seen in plenty for the last half-dozen blocks.

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### When Greek Meets Greek

"Jump Spark and Billy Brassey met for the first time yesterday, and they got on together famously. They kept up their talk until late in the evening."

"What were they talking about?"

"Automobiles and golf."

"But Sparks don't know the first thing about golf."

"Neither does Brassey know anything about automobiling. But that makes no difference. Each kept it up on his favorite topic without listening to the other."

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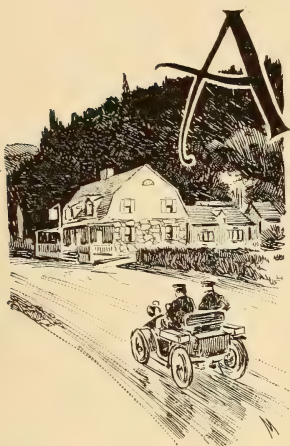
### On Personal Grounds

"You say that man who is loudly denouncing automobiles is a doctor?"

"Yes—a horse doctor."



## Options on the Philadelphia Trip



AFTER dealing with so large and intricate a subject as the road systems connecting New York and Philadelphia, more or less for the information of automobilists unacquainted with the territory, it appeared the better way to define a direct and standard route, without likelihood of confusion at the time with the large number of options presenting themselves practically from beginning to end. While this course requires the mapping out of one through line concerning whose component parts all may not agree, a framework is thus provided for the grouping of the optional route-portions in a way to aid selection from among them according to the preference or special plan of the tourist. And so if the trip narrative appear to look neither to the right or left, it may be said that only this feature keeps it within the bounds of a single article, for the convenience of readers. The key to the rest is the supplementary information given herewith as fully as space permits; and if there be still any essential points overlooked, subscribers are invited to take them up with our correspondence department.

Broadly speaking, there are four optional beginnings of the trip toward Philadelphia, as follows: (1) our standard route, through Jersey City, Newark, Elizabeth and Rahway to Metuchen; (2) an outward and upward movement from Elizabeth, through Roselle, Cranford and Westfield to Plainfield, thence downward to Metuchen; (3) Jersey City to Hudson County Boulevard to Bergen Point, ferry to Port Richmond and along the north shore road of Staten Island to the Elizabethport ferry and Elizabeth, thence either of the above to Metuchen; and (4) from South Ferry, Manhattan, to St. George, Staten Island, across the entire length of the island to Tottenville, ferry to Perth Amboy, and road again to Metuchen. Thence, all routes alike, to New Brunswick.

1. The first is described in detail and diagramed in this issue.

2. The second separates itself from the first by the fact of continuing on Westfield avenue out of Elizabeth, to and through Roselle and Cranford to Westfield, instead of bending left on Cherry

street, Elizabeth, for Rahway avenue and its connections as given in the standard route to Metuchen. From Westfield it is a short run in the same direction to Plainfield, thence downward to Metuchen. There are perhaps six extra miles in this detour from the direct Elizabeth-Metuchen line, and nothing special is gained in taking it, except perhaps variety in case one would otherwise go and return by the same route.

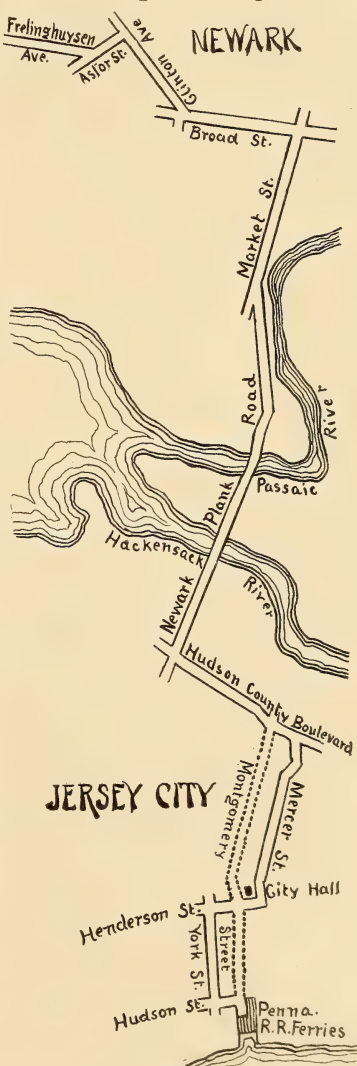
Regarded as another form of this last detour rather than as a separate and logical beginning of the Philadelphia trip, is the upper circuit from Newark through the Oranges. There is no better riding in the Metropolitan District than through this cluster of towns and cities; but some extra time is needed to include them in a through southward itinerary. But the going is good and the tourist from a distance going so near by, will find this side-issue a pleasant experience. Bound this way, take the standard route to Broad street, Newark, turn right (opposite direction now from the standard route,) and keep same until one block past the small Military Park alongside Broad street. Here turn left, up Central avenue, and by Harrison street to East Orange, thence to Orange, South Orange, Milburn and Springfield to Westfield, Plainfield and Metuchen.

3. The third is a short route from Jersey City and all North river points on the Jersey side to Elizabeth, avoiding Newark entirely. It takes the standard route to and through Jersey City and into the Hudson County Boulevard, only that instead of turning off into the Newark Plank road, one keeps on straight to Bergen Point ferry. Here cross to Port Richmond, Staten Island, and take the North Shore road direct to Howland Hook, where ferry is again used to Elizabethport. Land near the Crescent shipyards, and take Jersey street through to Broad street, Elizabeth, thence up Broad street to Rahway avenue and the standard route to Metuchen. This option is an entirely practicable but withal a curious one, from the fact that you take two ferries and some stone pavement on Jersey street, Elizabethport, in place of the Newark Plank road, coming into a common point on Rahway avenue.

4. The fourth and last regular option is the shortest of all, not only to Philadelphia but also to the New Jersey coast resorts. It is the only one that avoids Jersey City entirely, and this it does by a radical departure at the very beginning. Downtown to the tip end of Manhattan, take South Ferry to St. George, Staten Island,

cross the full length of the island on good roads to Tottenville. The main road itself—called locally the Amboy road—ends at a private dock on the Arthur Kill or Staten Island Sound. But if one will look off to the right just before coming to this point, he will see the ferry, with a short connecting street between. Go down to the ferry and take same across to Perth Amboy, N. J.

Once across, go straight ahead with the electric cars and follow them more or less of the run to Metuchen, mostly good but with two or three bad stretches. However, it will be necessary in this case to go up through the town, for the standard route from Rahway cuts across the outer section of Metuchen. Go through the town under the viaduct carrying the Pennsylvania R. R. tracks to the station just above, until a left turn opens the way into that common stem of all lines, the six miles of direct riding between Metuchen and New Brunswick. It is possible to go with the electric cars from Perth Amboy near to but not down into Metuchen, then by Bonhamton and Piscataway to New Brunswick. This is a short cut between the two points, but the road is not good enough to justify cutting out Metuchen. Again it is shown how the Metuchen-New Brunswick line is the one common fraction of the entire optional series.



Distances from New York to New Brunswick: Standard route (1) 36 miles; Westfield-Plainfield detour from Elizabeth, route (2) 42 miles; Hudson County Boulevard-Port Richmond-Elizabethport line, route (3) 30 miles; Staten Island-Perth Amboy

route (4) 28 miles. In point of time required, the four are nearly equal, since each case of smaller mileage is offset by the ferry transfers. In making such a run as that to Philadelphia, therefore, one may choose which way he wishes to begin his journey, and by that choice scarcely affect the results of even the first half-day.

The reasons compelling the selection of the Cranbury turnpike between New Brunswick and Trenton for the standard route are necessarily given in the narrative of the trip. Between these points the additional options are nominally two, in reality one. The old Trenton-New Brunswick turnpike is a 24-mile air line connecting these points—shorter even than the railroad mileage. But the right of way was secured many years ago by the railway interests, and it was speedily made impassable as a whole for road vehicles, and so it remains to-day. It is not in use by the steam lines themselves, and what is left of the ties laid upon it years ago to secure the legal right to it spoil it as a thoroughfare of any kind. There is nowhere a worse example of a fundamentally good highway sold to and practically abolished by overreaching private interests.

From New Brunswick to Trenton via Princeton is an easy matter so far as directions are concerned, this way out of New Brunswick being simpler than that to the Cranbury turnpike. Continue straight out on Albany street, cross under the Pennsylvania Railroad tracks and on to Franklin Park, bending left not far beyond to Kingston. Thence across the Millstone river to Princeton, and out past the University grounds, on to Lawrenceville and through to Trenton, coming into Brunswick avenue, down to the soldiers' monument. The first portion to Princeton is somewhat hilly and not uniformly good; the second portion is more level and easier on all accounts to cover. Distance from New Brunswick to Trenton by this line 29 miles, less by three miles than the standard route over the Cranbury turnpike.

The soldiers' monument is a good place to call the center of Trenton, and several roads and avenues come into or near it. Only one through route does not touch this locality—our standard route from the State fair grounds in the upper city to the Delaware river bridge—which makes for itself a nearly straight and the most direct line possible between these two points.

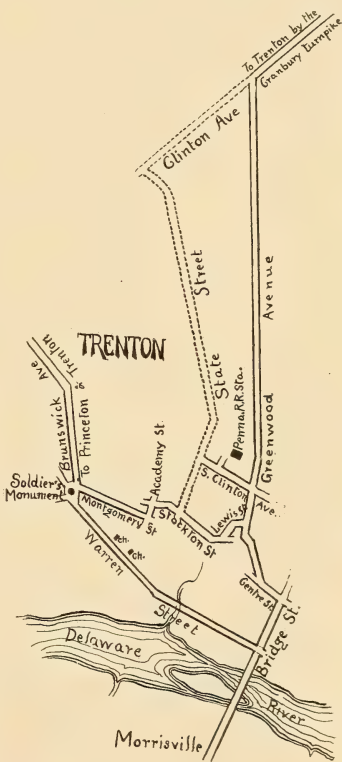
Coming into the center of Trenton from the standard route, one does not necessarily turn off onto Greenwood avenue, but may keep right on Clinton avenue to State street, which is held until across the Pennsylvania Railroad tracks and the Delaware & Rari-



tan canal. Here take Stockton street, to Academy, and go on Academy to Montgomery, thence direct to Brunswick avenue and by a left bend to the monument. At this writing, however, lower State street is in process of repaving, and for the time being the Greenwood avenue route is preferable. When using the latter into the center of Trenton, keep until across the railroad and canal, where turn down Lewis street, passing over the head of Market street, right into Stockton street to Academy street to Brunswick avenue and the monument as heretofore.

If for any reason it is desired to reach the main station in Trenton of the Pennsylvania Railroad, Greenwood avenue passes near to and in sight of it. If southbound, take Clinton street just before coming to the crossing of the railroad and canal; if northbound, turn into Clinton street just after making this crossing.

Outward from the monument to the same Delaware river bridge (whether from Brunswick avenue, by the Princeton option, or from the standard route carried into the center of the city instead of direct to the bridge), turn down Warren street. Follow this until it comes into the Pennsylvania Railroad tracks just before the river; here turn down alongside the tracks for a narrow way to the bridge, and the standard route is found again toward Morrisville, the first station in Pennsylvania, and the gateway to the Bristol turnpike.



#### OPTIONAL ENTRY INTO PHILADELPHIA.

The 25 miles from Trenton to Frankford offer no advantageous choice of routes to the Quaker City. There is, indeed, but one other possible way—by Bordentown and Burlington to Camden, thence by ferry into the lower part of Philadelphia. This road—largely the Burlington turnpike—is hilly and hard going; and not, therefore, to be recommended. It may be followed, however, when

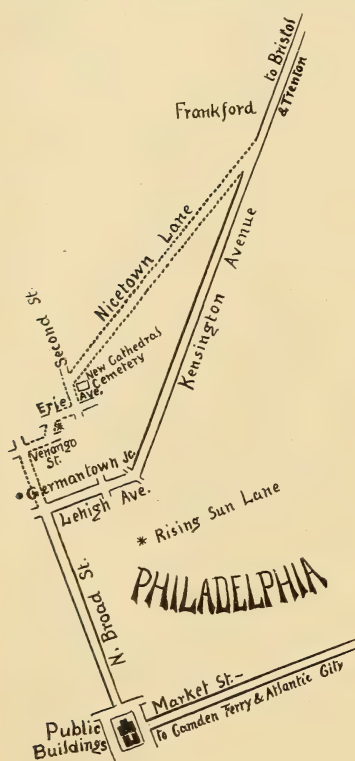
one is sure of his power supply and anxious to vary a previous trip. The single ultimate advantage of the Bordentown-Burlington route is that one may very easily go onto the Atlantic City road from Camden; and if bound from the Trenton district to the Jersey coast that way, he is enabled to pass entirely around the city of Philadelphia.

The one remaining option of this series is that from Frankford to Philadelphia, and it is somewhat less direct than the standard route. It has the advantage, however, of being over perfectly

good roads from beginning to end, and one who prefers to make the extra distance and the larger number of turns, will find the following directions entirely suitable for that purpose:

Go into and through Frankford, as before on Frankford avenue, bending slightly to the right onto Kensington avenue. However, turn squarely to the right into Nicetown lane almost at once—the first right after crossing Frankford creek—which is at the bottom of the moderate descent out of this suburb. Beginning rather inauspiciously and never straight for any considerable distance, Nicetown lane is a hard-surfaced thoroughfare, and after three or four miles of good riding will bring up alongside the new Cathedral Cemetery.

At the corner where the greenhouses are, turn left into Second street, which take one square to Erie avenue. Follow Erie four squares, after which turn diagonally down the equivalent of about two squares on Rising Sun lane to Venango street. Take Venango street, by right turn, and cross first the Old York road, then Germantown avenue, a square beyond which one will come at right angles into North Broad street. Turn left here and it is direct to the public buildings—the end also of the standard route.



If these directions are puzzling to understand in reading, they are certainly not difficult to follow, and the accompanying map will give a good general idea of the situation. The short stretch of Rising Sun lane is but a means to an end, as it is necessary to get from Erie to North Broad street—only a short distance—in some irregular way, since Erie avenue is not opened through as Venango street is. When this is done—which should not be long—the final directions of this optional line will be much simplified. Meanwhile the Frankford-Philadelphia map has been prepared with a view to its use also by tourists reversing its direction, and outbound from Philadelphia to Frankford. In either case, if a direct but poorer road is preferred, take the Broad street-Lehigh avenue-Kensington avenue route; otherwise the more roundabout but almost perfect detour via Venango street, Rising Sun lane, Erie avenue, Second street and Nicetown lane.

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### In the Language of Proverb

He that trusteth his automobile to the care of a hired man shall come quickly to grief; but he that careth for it himself shall flourish like a branch.

A wise man feareth and departeth from crowded streets; but the fool cryeth "Selah!" gets in the middle of the push and is confident.

A righteous man regardeth the life of his carriage; but the tender mercies of the scorcher are small and far between.

He that is void of wisdom criticises his neighbor's vehicle; but a man of understanding holdeth his peace.

It is better to ride alone in a trolley car than with a nervous woman in a brass trimmed speed car.

A smooth road maketh a cheerful countenance; but by a rough one are repairers made glad.

When scorching cometh, then cometh shame; but with the careful rider is wisdom.

The fool rejoiceth in his speed; but the wise man looketh well to his going.

## European Notes of the Month

**N**O automobile accident probably ever caused more widespread comment or elicited more universal regret than that by which Mr. and Mrs. Charles L. Fair lost their lives at Pacy-sur-Eure, France, on the 14th of August, last; but it is a little curious that the frequency of accidents recently from the same cause has passed practically unnoticed.

The mechanic employed by Mr. Fair has stated that shortly before the accident occurred, the left rear tire punctured, and as the car was going at a speed of sixty miles an hour, he called upon Mr. Fair to slow down, but either from inability or disinclination to comply, the advice went unheeded. Almost immediately after the puncture the car failed to obey the steering gear, and swerving from the road ran up a bank and into a tree, the occupants of the front seat being killed instantly, while the mechanic was severely injured.

This accident was almost identical, except in its consequences, with that which occurred to the Hon. Charles S. Rolls in the Paris-Vienna contest, and to Dompert, the Clement driver, who was fatally injured while returning from the Ardennes races. The tendency of tire makers is to produce tires of an egg-outline section, the narrower end forming the tread. When such a tire collapses the car is left running on three wheels, and if two of them are behind correct steering is hopeless. Some remedy for this defect has got to be found or the crop of accidents in the case of fast running cars is going to be a heavy one.

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A remarkable performance by Mr. Hewetson, on a Benz car, came to an end when he made his fiftieth consecutive daily run of one hundred miles. Mr. Hewetson's object was to demonstrate the reliability of automobiles generally, and, of course, of the Benz particularly. On every day he carried an observer to note the cause of any stoppages and their duration, but these officials appear to have been little needed. The Benz is a belt-driven car and Mr. Hewetson is reported to have stated that he never touched the belt from start to finish, although he had occasion to renew his sprocket wheels and to tighten his chain once. The weather the greater part of the time was of the most trying description, and the small amount of trouble experienced was remarkable. The tires used were Clipper-Michelin in front and Connolly solids behind, an arrangement which Mr. Hewetson found to work admirably, since he had only three



punctures, simple ones, in the fifty days, and only inflated the tires ten times. The car, a 5-H. P. vehicle, is to be sold by public auction for the benefit of King Edward's Hospital Fund.

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There is a good, considerable controversy in British automobile circles as to the merits of the Hon. John Scott Montague's bill, which has been introduced into the House of Commons, and a good deal of placid sentiment has been written regarding it. The bill provides for the abolition of the present absurd legal limit of fourteen miles an hour, placing self-propelled vehicles on the same footing as other road users, but it also requires automobiles to be registered, and calls for every car to bear a distinguishing number. It is to the latter provision that exception is taken, and the opposition has assumed such proportions that the A. C. G. B. & I. has called a general meeting to discuss the matter. It is inevitable that the legal limit will never be removed without numbering, and unless a change takes place ere long in the conduct of certain owners of high-speed cars the obnoxious proviso may become law without any countervailing advantage. There is a growing feeling among local authorities in favor of numbering as a means of checking reckless driving, and as cars increase in number and fools multiply, numbering will certainly follow.

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Automobile events have followed each other in such rapid succession this year that the ordinary man finds some difficulty in keeping run of them. Paris-Vienna was quickly succeeded by the Ardennes, then Welbeck, and now Deauville. The distinguishing feature of the last-named meeting was the lowering of the kilometer record to  $26\frac{2}{3}$  seconds by Gabriel on a Mors, and this was only one-fifth of a second faster than Chauchard's time on a big Panhard. Deauville, a suburb of Trouville, a French summer resort on the estuary of the Seine, reserves its esplanade one day in the year for the kilometer trials instituted by the Auto-Velo. The track is not a model one, being rather rough on the surface, and as it is only a mile and a quarter long, either the starting or stopping distance must be inadequate. The track also bends slightly about 400 yards from the finish, and this is a defect which drivers dislike most. The conditions being taken into account, the times made were wonderful, for, in addition to those named, a Serpollet went over the course in  $27\frac{1}{3}$  seconds, and this would probably have been beaten by M. Serpollet himself on another car, had not, when he was well on for

the finish, a joint in the burner gave away, preventing the car from crossing the line. Another remarkable performance was that of Rigal on an 8-H. P. Buchet tricycle, his time being  $28\frac{1}{2}$  seconds, a speed equalled by Pannecake on a 70-H. P. Panhard. In all there were six better performances than Serpollet's  $29\frac{1}{2}$  seconds at Nice, and four better than Jarrott's  $28\frac{1}{2}$  seconds at Welbeck a week before. A wonderful meeting.

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During the late South African conflict the War Office came in for many hard names, one of the commonest charges being that it was behind the times, an antediluvian department which had survived by many years its period of usefulness. In the matter of automobilism, however, it is more up-to-date than many so-called modern institutions, and from the passing of the Act of 1896 has displayed an intelligent and sympathetic interest in the movement. Last December extensive trials of various types of lorries for transport purposes were instituted and the report of the committee has now been published. The general tenor of the report may be grasped from one of its sentences: "The committee are of the opinion that it has been demonstrated that mechanical transport of this nature has many advantages, and that it is well worth a more extended trial."

All the lorries but one were steam propelled, the exception being an internal combustion motor run by Milnes & Co. Of this car the committee report that they "desire to call attention to the great possibilities for military purposes of the internal combustion lorry burning heavy oil, as shown by the small fuel consumption and practical independence of water," and they "strongly recommend that steps to develop such lorries be proceeded with." But it is not in heavy vehicles alone that the War Office takes an interest. It has purchased various types of British and at least one foreign automobile, and one of the most interesting features of the coronation procession on the 9th of August was the tour of inspection of the arrangements by H. R. H. Field Marshal The Duke of Connaught on an automobile. During the August maneuvers on Salisbury plain General Sir Evelyn Wood, the commanding officer, proceeded from point to point on one of the official cars, while more recently Field Marshal Lord Roberts and staff made a tour of inspection round the coast of Kent on motor vehicles, the nucleus of a future Volunteer Automobile Corps, some ten in number. This interest of the military department can have none but a beneficial effect on the automobile industry in this country.

The editor of a British automobile publication, irritated no doubt by the prominence given to the most trifling accident to any self-propelled vehicle, has retaliated by publishing a list of accidents caused by horses in Britain during five days beginning the 26th of August. The list was compiled from all the newspapers which the editor could secure, but there were, of course, many beyond his reach, and besides many accidents in remote districts no doubt went unreported. The accidents were fifty-two in number and resulted in five persons being killed, while sixty-five were injured. The pity is that such information is only read by automobilists, while the exaggerated accounts of motor troubles are special features of the daily press.

Glasgow, Sept. 15.

ALEXANDER F. SINCLAIR.

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### Documentary Evidence

"The two best automobiles I ever knew——" began the raconteur.

"Excuse me," interrupted the precise man, "but you should not say that."

"I hadn't got started yet. How do you know what I was going to say?"

"I was referring to your English. 'Best' is superlative, you know. There can not, therefore, be more than one 'best.'"

"Can't eh? That shows how much you have to learn."

"There's nothing to prove the contrary."

"Oh, yes, there is. Take any magazine and read the automobile advertisements."

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### Controlling of Power

"How are you getting along with your automobile?" asked Miss Querymore.

"Well," answered Willie Dogcaryt, "I can run it all right, but it will be a long time before I can get over saying 'geddup' and 'whoa' to it in place of pushing a couple of levers, don't yer know?"

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### The Best Thing He Could Say

Teacher—But can't you define "automobile?" Suppose some one asked you what an automobile is, what would you say?

Pupil—I'd say, "Don't you know what an automobile is?"

## When Nature Preaches

ROSALIE KENT FORD

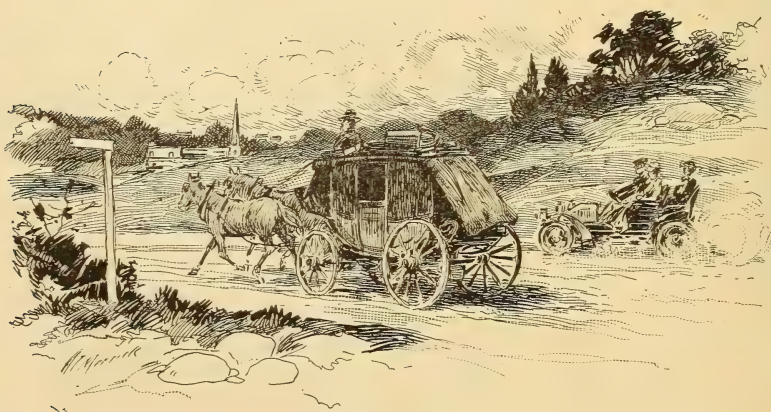
Oft as returns this solemn morning  
Wherein temporarily I tour no more,  
Within the kirk, with dim forewarning  
If service long and sermon bore,  
A doze comes softly o'er me creeping,  
I mount as in a dream meanwhile,  
And, the suburban byways seeking,  
Depart unnoticed down the aisle.

Glad to forego the sermonizing  
That slowly from the pulpit drones  
For other sermons emphasizing  
Themselves in running brooks and stones  
Their messages with thought are burning,  
Their manuscript no one perceives,  
Although with subtle charm returning  
October gayly turns the leaves.

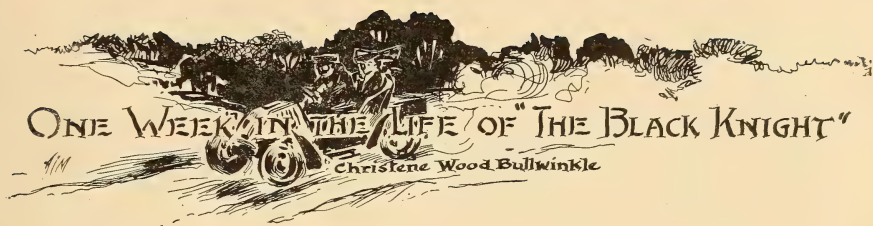
And sets the hillside brightly blazing  
As all the trees proceed to don  
And draw 'fore my ecstatic gazing  
Again their autumn flannels on.  
I blush to think chill winter's breathing  
Will soon those garments rend away,  
All stark and bare their branches leaving  
Exposed in sad décolleté.

I rush along the pleasant meadows  
Where fringe-eyed gentians smile and gleam,  
And muse upon the wandering shadows  
Reflected in the placid stream.  
The cattle on the hill are grazing,  
Their final picnic of the fall;  
A tender, soft, autumnal hazing  
Suffuses and encircles all.

Oh, sport supreme, sublime, undying,  
My spirit ye create anew,  
As thus ye bear me on, defying  
The limitations of the pew.  
What though the winter fiercely raging  
Benumb the autoist's outer day,  
He finds the season still engaging  
Within the realm of fancy's play.







**R**EALLY, I can barely escape exploding with indignation when I think that I was swapped for a team of bob-tailed cobs, and a black-walnut, mirror-fronted folding bed, simply because I refused to go up a hill on Riverside Drive when I was tired and only half-fed.

It takes a vehicle with a good disposition and strong motor power to resist running away and smashing things up generally, under such circumstances.

My new owner appears to be a doctor, and I hope that he won't ask the impossible of me.

## MONDAY

Well, that doctor certainly is a wonderful human. I pity the horse that he drives. I'm sure that I have traveled fifty miles up and down, and across this city to-day.

After visiting a free dispensary on the east side (where a number of taffy-faced, inquisitive children climbed all over me), and stopping about fifteen times for house calls, he finally alighted at a stylish brown stone residence on the sunny side of Madison avenue.

I grew very impatient at the expiration of an hour and came very near going home alone, but was glad I didn't, when the genial doctor assisted a handsome little woman into the seat beside him.

Now I know why we called at that fashionable florist's store this morning, and I also imagine to whom the violets we bought there were sent. I fear, though, that the little woman has lost some

dear friend, as she dresses in deepest of mourning (it's mighty becoming, just the same).

## TUESDAY

This morning when "we three" were out for a spin on the "Drive," the widow (Mrs. Bolton) remarked most pleasantly, "Doctor, I have ridden in many different styles of motor carriages, but I have never found one that runs so smoothly and rapidly as this one does."

There are few women who possess as much appreciation and tact as Mrs. Bolton. I shall be very careful when I have her out not to balk or refuse to run; but those trolley and cable car bells are so distracting, and one can never tell when there is a car directly behind until that absurd bell jangs and clangs.

## WEDNESDAY

Another busy day. It seems as though the doctor likes Mrs. B. very much, because now as soon as we are through with the regular daily visits, he doesn't need to drive me up to her house, because I know the way and always head right up Madison avenue and stop at her door.

This afternoon while we were going up Fifth avenue I overheard the doctor remark: "I am very lonely keeping bachelor's hall." (It must be very lonely for him, because he is such a jolly, sociable fellow.)

## THURSDAY

When the doctor and I called for Mrs. Bolton this afternoon we went up to Grant's tomb, and then to Claremont for tea. As we reached the memorable spot where I "balked" that day I was slowing up to get breath for the hill when I saw my former owner dashing by with the bob-tailed team I was swapped for. I let out a snort, took a spurt and led those horses such a race up that hill as they never had before.

## FRIDAY

I have decided to end my miserable existence and commit "autocide" by swallowing an overdose of gasoline and eating a box of sulphur matches. As long as Mrs. Bolton is not pleased with my color (black) I do not care to live.

It happened this way: Dr. Elliott, the little widow and I were running along the East Drive in Central Park just as nice as you

please, when suddenly a dark green, French-looking tonneau passed us; it was a beautiful shade, I must admit, and I was just beginning to hope that Mrs. B. had not noticed it, when she turned to the doctor and softly remarked: "Why don't you change 'The Black Knight' to green and call it 'The Green Cloud' and have it bright and shining like that stylish motor car which just passed us? Besides, I am so tired of black, Dr. Elliott."

The doctor gave a sly side glance toward her, and she blushed and looked across the tennis grounds.

But I cannot forget that she does not like me, so it will be best to end my misery quickly.

## SATURDAY

"Alas! how easily things go wrong," so some one remarked when he had stacked a brand new automobile upon a stone wall through a defective steering gear, but I say, "how good it is that sometimes they go right."

I had made all the necessary preparations to end my career this morning, even to secreting a box of matches which the doctor had dropped, when Fate stepped in and saved me from making a dreadful blunder.

It seemed as though the last office patient would never go, and time lagged upon my wheels fearfully. Here it was that dear little Mrs. Bolton appeared upon the scene and changed everything.

I had intended to have my explosion take place right in front of her house in the presence of both the doctor and her pretty self, but it was not to be.

At ten o'clock the doctor had just mounted the seat and was about to push over the lever which gives me the signal to start off when a fashionably-gowned, stylish-looking woman hove in sight steering an apple green enameled tonneau car.

Naturally my jealousy was aroused by the very thought of that odious color, and without another glance at the dainty chauffeuse, I took the brake in my sprocket teeth, as it were, and up and collided with that tonneau right there and then.

I can't write much about the affair because the shock was so violent that my motor and driving gear were wrecked—but this I do remember, that as I was being towed away for repairs, the doctor shook his finger knowingly after me and said, as he assisted Mrs. Bolton (who had fainted) into his office: "You've accom-

plished more with this smash-up of yours, than I could have done in a year of courting."

I hope that they will spend their honeymoon with me in Paris and take a trip on the continent. I would enjoy a roaming life for a year or so, I know.

That green tonneau tried to get into conversation with me this afternoon in the repair shop where both now are: the upstart! I will have nothing to do with it.

(I understand that the little widow only hired it for an hour, anyhow, so as to tease the doctor.)



### The Lay of the Contented One

Give me a pair of sturdy legs  
And fair outfit of feet,  
And I'll forego the automobile,  
However fine and fleet.

For where's the autoist who knows the wood,  
Or views the cloud flecked sky?  
Or leaps the fence to meet a lass  
A-comin' through the rye?

To every glimpse of loveliness  
His begoggled eyes are blind;  
He only sees the skimming road,  
And counts the miles behind.

And should he meet a maiden fair,  
He can't think aye or no  
Ere he or she have whisked apart  
A dozen leagues or so.

Then give me my convenient legs,  
That go where'er I bid.  
Heaven keep them always tireless  
As when I was a kid!



## Cleveland Comes to Her Own



CLEVELAND, which, by the by, comes pretty close to being the home of the American automobile, has shown how interesting a thing the racing of automobiles can be made, provided the affair is properly managed.

On September 16, the Cleveland Automobile Club, at the Glenville track, gave a day of exciting sport, which sent the ten thousand spectators thereof home with an Oliver Twist-like desire for more of the same kind.

The two star events of the day were Winton's regaining of his honors from Harkness, and the excellent performance of the White steam vehicle. Driving his now famous "Bullet," Winton placed the track record for the mile at 1:02 $\frac{1}{4}$ , the new figures being made in the second mile of a pursuit race in which he defeated Harkness. In a subsequent race Winton again vanquished Harkness, and in doing so, altered the figures for 10 miles to 10:50.

As a sort of consolation for its two defeats by the American-made Winton, the German Mercedes won a 5-mile race in record time of 6:32 $\frac{3}{4}$ . But Mr. Harkness was not allowed even that honor, since after the event it was discovered that his big German racer was overweight for the class to which contestants in the event were limited, and so his record and win were not allowed.

Considering that it took the finest and most expensive 40-H. P. foreign-built racing car 6:32 $\frac{3}{4}$  to do five miles, the traveling of a like distance in but 9 $\frac{1}{4}$  seconds more time by a light American steam vehicle, the White, was truly a most convincing argument in favor of Cleveland built vehicles, which now hold the records for gasoline, steam and electric vehicles, the Baker being the electric one of the trio. Sometimes a prophet is not with honor in his own country.

The summaries:

Five Miles.—Steam, all weights; silver cup—Rollin H. White, Cleveland (White), first; John McDonald, Geneva (Geneva), second; L. E. Hoffman, Cleveland (Hoffman), third. Time by miles, 1:48 $\frac{1}{2}$ , 4:02, 6:18 $\frac{3}{4}$ , 7:55 $\frac{1}{2}$ , 9:53 $\frac{1}{2}$ .

Five Miles.—Gasolene, 1,000 pounds and under; silver cup—H.

S. Moore, Cleveland (Elmore), first; J. D. Dickson, Cleveland (Cleveland), second; George W. Dunham, Cleveland (American), third. Time by miles, 2:26 $\frac{3}{4}$ , 4:03 $\frac{3}{4}$ , 6:51 $\frac{1}{2}$ , 9:04 $\frac{3}{4}$ , 11:19 $\frac{1}{2}$ .

Five Miles.—Gasolene, 2,000 pounds and under; silver cup—H. S. Harkness, New York (Mercedes), first; C. B. Shanks, Cleveland (Winton), second; Percy Owen, New York (Winton), third. Time by miles, 1:24 $\frac{1}{2}$ , 2:42 $\frac{1}{2}$ , 3:58 $\frac{1}{4}$ , 5:13 $\frac{3}{4}$ , 6:32 $\frac{3}{4}$ .

Former track record, 6:42, by F. A. Roche (Darracq), Brighton Beach, August 23.

Three Miles.—Electric, all weights; silver cup—Walter Baker, Cleveland (Baker), first; W. M. Wright, Cleveland (Waverly), second; C. E. Denzer, Cleveland (Baker), third. Time by miles, 2:08 $\frac{1}{4}$ , 4:03, 5:54 $\frac{3}{4}$ .

Ten Mile Handicap (for winners and seconds in preceding races, 1, 2, 3 and 4); silver cup—Rollin H. White, Cleveland (White), first; Percy Owen, New York (Winton), second. Time, 14:59 $\frac{1}{2}$ .

Ten Miles Open.—Alexander Winton, Cleveland (Winton Bullet), first; H. S. Harkness, New York (Mercedes), second; L. P. Moores, Cleveland (Peerless), third. Time, 1:50. Former record 11:09, by Alexander Winton, Detroit, October 24, 1901.

Australian Pursuit.—Alexander Winton, Cleveland (Winton Bullet), first; H. S. Harkness, New York (Mercedes), second. No time given. In the second mile Winton covered the mile in 1:02 $\frac{1}{4}$ . Former record, 1:06 $\frac{3}{8}$ , by Alexander Winton, Detroit, October 24, 1901.

Ten Mile Handicap.—Percy Owen, New York (Winton), first; Paul Deming, Cleveland (White), second. Time, 13:34.

Two Hundred Yards (Obstacle Race).—R. H. Gilbert, Cleveland (Locomobile), first; Walter Baker, Cleveland (Baker), second. Time, 0:49.

Special Race, five miles to beat 6:44.—Rollin H. White, Cleveland (White), won. Time by miles, 1:24 $\frac{1}{4}$ , 2:44 $\frac{1}{2}$ , 4:03 $\frac{3}{4}$ , 5:22 $\frac{1}{2}$ , 6:43.



### Just Suited the Scorchers

And the soul of the wicked one was next condemned to fall through space at the rate of a mile a minute for 10,000 years.

"Say," he shouted as he passed the 10,000th ghostly mile post, "this beats any riding I ever tried!"

## A Pittsburgh Man's Rush Through Scotland

**M**R. Harry Phipps, of Pittsburgh, left a well defined streak through Scotland with a fast automobile during the summer. He started from Edinburgh to visit a friend who has a castle on the Dornoch Firth. Before reaching Inverness he was arrested twice for reckless speed, then his experience resembled that of a Frenchman who was out in the moors to shoot grouse. On returning after a tiresome day wading through the heather he reported: Grouse none, hares none, sheep three, days one.

Mr. Phipps, on the side of the Dornoch Firth, ran through a flock of sheep without stopping, and killed five. A county constable then noted the time, and telephoned twenty miles ahead to time the Juggernaut car that was approaching. This was done and more penalties were inflicted none was so hard to bear as the reception at the end of the journey.

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### With Modern Improvements

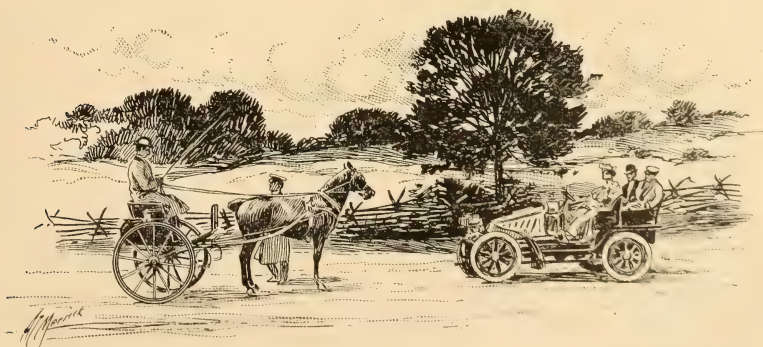
"Naw," said the owner of the "opry" house, "our folks won't stand for another blamed Uncle Tom show this year!"

"But they'll go broke to see mine, just the same," was the unabashed rejoinder of the U. T. manager. "Why, I've got my show right up with the times, I tell yer."

"Got six little Evas and a dozen Legrees, eh?"

"Better'n that, my boy, a long way past that. Just a sample: Eliza, chased by a lot of Filipinos on motor cycles, crosses the ice on a \$10,000 automobile. Can you beat that?"

And as the owner had to admit he couldn't, that was why he took on just one more U. T. show at the "opry" house.



## The Arena and the Automobile

**I**T is not easy to imagine a more vivid contrast between the old and the new than is shown in our frontispiece this month. In the arena of the coliseum at Verona, Italy, where, in days gone by, Roman chariots raced and gladiators fought, to-day is seen the automobile! The picture we have reproduced shows Mr. and Mrs. Charles J. Glidden, of Lowell, Mass., who, while on a 4,000-mile automobile tour through Europe, accompanied by Mr. and Mrs. Dudley E. Waters, of Grand Rapids, Mich., had their photographs taken in the arena after securing, at no small trouble, from the Lord Mayor of Verona, permission to invade the sacred precincts of the coliseum with an automobile. One can easily imagine what the staid and venerable official must have thought of the request when it was made to him, and how he probably granted it in the end because Americans were not as other people, and hence were beyond the comprehension of even the Lord Mayor of Verona.

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### A Fable and a Fact

See the man with the fried egg cap.

He is riding along rapidly in his automobile.

A large beer wagon is proceeding along not rapidly ahead of him.

The man toots his auto horn; likewise he rings a clanging gong.

"When my German friend hears that," the man soliloquizes, "he will turn out."

But the German Baron sleeping on his seat swerves not a hair's breadth, and the man unable to check his speed quick enough comes to smash on the tailboard of the Baron's beer carriage.

This shows that things do not always turn out as we expect in this world.

---

### As to the Manner of His Going

"And must I walk the plank?" faltered the captive.

"Certainly!" replied the smart Corsair with a frown. "You don't suppose I'm going to supply you with an automobile, do you?"

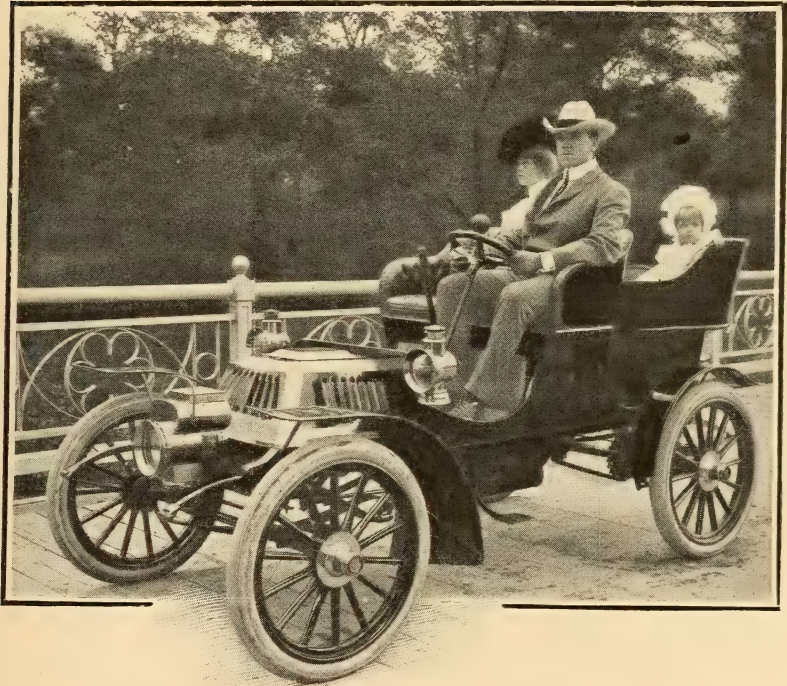
Piracy is, essentially, an unprogressive industry. It does not respond to the modern spirit.



## After He Had Been There

"Every once and a while we are reminded in a most vivid manner of the maxims we learned in early youth," said the man with a cross of court plaster just showing under the exaggerated visor of his automobile cap.

"Of course; most of their merit depended upon their application to everyday affairs. And yet there was one which had en-



Tonneau Designed and Built by A. L. Dyke, of St. Louis, for his own use.

tirely escaped my memory until I undertook a two weeks' tour in an automobile one week after I had bought it."

"Which was it?"

"A little learning is a dangerous thing."

### Why He Walked and Wearied

Mrs. Farmer—Why do you walk the roads in this aimless manner year in and year out?

Weary Wats—'Cause I ain't got no automobileel.

## Trying to Undervalue President Shattuck

THINK that it is a wise plan for people to permit the members of clubs and similar organizations to manage their own affairs without interference from the outside; but there has been such a violent attack made on Mr. Shattuck, president of the Automobile Club of America, in the pages of the New York *Commercial Advertiser*, that I consider it the duty of THE AUTOMOBILE MAGAZINE to break its rule of silence on personal fights, and go on record in the interest of fair play. Mr. Shattuck has been a remarkably earnest, persistent and faithful worker for the Automobile Club of America, and he has exerted useful efforts to the end that all automobilists be fairly treated. These are facts that no one will deny, and the case being as it is, no thought of a change should be entertained except in favor of some one who has proved by acts that he is likely to make a more useful president than Mr. Shattuck.

The tendency of all clubs is to permit the willing horse to do the greater part of the work, and the only cause of offense which Mr. Shattuck has given seems to have been the doing of his work uncomplainingly while others looked on. I am a member of the Automobile Club of America with good opportunities for knowing the sentiment of its members, and the impression I have received is, that Mr. Shattuck is highly popular with the members at large and is under the ban of only a small clique who appear to be actuated more by personal jealousy than by a desire to promote the interests of the club. Before the members of the club permit themselves to help in displacing their president, I should advise them to weigh carefully the likelihood of another man rendering them better service.

A MEMBER OF THE A. C. A.



## The Fossil, the Fishing and Precedent

**A** DODDERING old fossil had driven out in his road wagon to the suburbs, and, letting his horse nibble the grass, was fishing on what had been the bank of a river. The throat of the stream was dry and parched, as there was no more water to be found there than in the dining room of a Raines law hotel.

"What are you doing, friend?" inquired a traveler who was passing that way in his new, double back-acting, super-sprung, six-cylindere, forty horse-powered, electric, steam, storage battery, kerosene dos-a-vis.

"Fishing," said the fossil.

"But there's no water there! See, when you cast your fly it raises a cloud of dust as it strikes! I know a stream where there is plenty of limpid water in which the fish disport themselves. Furthermore, the wild thyme blows on its banks. Will you not come with me in this horse-bereft conveyance of mine and cast your line there?"

"I will not," replied the ancient dodo. "My son, I fished here when I was a boy, before you were born, I trow. I have caught fat fish in this stream heretofore and I may do so again. At any rate, I have precedent on my side, and I have never seen the stream of which you prate. Another thing, my people and myself have always employed horses to pull us around."

Moral.—Precedent will not catch fish, but suckers can be caught on dry land.

---

### Present Attainments

"Don't you think, dear, we might afford one of the horseless carriages?"

"We might take the horseless part now and wait for time and good luck to bring us the rest."

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### Good-Roads Movement

"Wilt scorch down life's highway with me?"

I asked of the motor maid.

"If you've money to burn enough to make

A cinder path all the way," she said.

---

Every time a man tries to show off something is sure to go wrong.

## What Ignorance Does

**I**T is just as easy to have a motor vehicle running as smoothly and looking as well at the end of the second or third season of its use as it is at the end of its first season, provided proper care and attention are given it. When the vehicle is bought the man who sells it to you will tell you, ordinarily, that it will run better after it has been used a while than when it is brand new.

The same principle which applies to automobiles in this respect applies equally as well to machinery of every kind. When parts are new they only get into their best running order after their newness has been worn off and the working parts have been thoroughly shaken down by use. As soon as this happens then the vehicle runs smoothly and at its best.

The motor vehicle, all things considered, is a high-strung, more or less complicated affair and should be looked upon as such. The factor of safety in an automobile's construction is not so great as that of an ox cart, yet some people handle a light runabout as though it were an ox cart or a mowing machine. In this exists the prime cause for much of the complaint brought by ignorant users against the automobile's stability.

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### Couldn't Call It Heresy

"The minister accused of scorching! How can that be? He never rode in an automobile in all his life."

"I know it; but some mean member of the congregation accused him of preaching more than eight miles an hour."

---

### Cause for Worriment

"My dear," asked his wife, "what are you thinking about?"

"I was thinking," replied the theosophist, shaking off his fit of dreamy abstraction, "what kind of a motor I'll use next time I appear on earth."

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### Automobile Features

There's the auto face, and the racer's back,  
With its queer, altitudinous curve,  
And the mobile tongue, in the middle hung,  
And the scorcher's motor nerve.



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## From This Affliction, Deliver Us!

**W**ITH the best possible intent to remedy an evil, which is rapidly curing itself, a lawyer of this city has introduced in the Board of Aldermen an ordinance to inspect, label, license and literally mulct, therefore, all operators of motor vehicles in New York city, with the sole exceptions of motor cyclists and trolley motormen. Under the proposed ordinance the Mayor is to appoint three persons, to be known as the Board of Examiners of Automobile Operators, who shall serve for two years, and be paid salaries from the license fees. The Mayor, however, may remove his appointees.

The application for a license must be made to the Board of Licenses, and by them referred to the Board of Examiners, who will notify the applicant to appear for examination. The Board will report to the Mayor, who may approve its findings and direct that a license be issued for one year.

The license will bear the name and address of the licensee and particulars of the machine he operates. Two lamps must be carried, each bearing the number of the license on a perforated brass band with figures at least an inch and a half high.

Sufficient cause for revoking a license will be the violation of any law relating to speed limits or affecting the use of such vehicles, the intoxication of the operator while driving, or carelessness in leaving his vehicle unguarded.

The license fee will be \$10 for private vehicles and \$3 for public vehicles for hire seating two persons, and \$5 for more than two persons. Punishment for operating vehicles without a license is fixed at a fine of not less than \$10 nor more than \$50 or imprisonment for not less than two nor more than ten days.

We have on former occasions placed ourselves on record as being against any such special legislation as this. If the owner of an automobile is to be handed over to the mercy of a political board the salary of whose members will depend upon the amount they may make the owners of automobiles pay, the future of the Metropolitan automobilist is something which none but his enemies may contemplate with aught but forebodings of impending evil.

Abroad, and they manage things in this line a trifle better there than we do, an extremely lucrative business has been built up by regularly organized gangs of sharpers who make it their profession to blackmail automobilists. The vehicle owners submit rather than run the risk of losing their licenses through being haled to court and prosecuted by some shrewd figurehead of the blackmailers' organization.

That something of the same kind might happen here is not altogether an impossible thing. But whether it would or would not, the proposed ordinance remains one, the passage of which should be fought till the very last by everyone who believes in fair play, irrespective of whether they believe or not in automobiling.

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## Some "Horse-Power" Helps

**A**LMOST the first thing the man who is interested in automobiles learns to talk about in connection therewith is "horse power"; almost the last thing he ever learns what it really is, is "horse power." To the ordinary mortal the term means something so vague and so complex that he leaves its real meaning to others, while he goes on to the end of the chapter content

with a definition for his own use that it is "something which makes use to tell you how powerful a motor is."

Briefly the story of horse power as applied to power measurement is this: When Boulton and Watt first recognized the necessity of a unit for large concentration of power, it was found that 33,000 foot pounds per minute, or 550 per second, represented the capabilities of a good horse, and, though doubtless overestimated, this figure stands for the unit by which the engineer compares his engine with another.

A foot pound represents the same amount of work regardless of the manner in which it is expended. A pound weight lifted through a foot, one pound of water caught in the bucket of a water wheel and descending one foot, the piston of a steam engine moving one foot against a resistance of one pound, are instances in which the expenditure of power is precisely the same.

This does not imply equal horse power for the motors, however, since they could only be rated the same if they all performed the same work in exactly the same time. Thus, if the water wheel took two seconds to expend the foot pound, while the steam engine took only one second, the latter would have twice the rated power of the former—in other words, twice the power would be given by the steam engine as that derived from the water wheel during the same period of time.

Thus it will be seen that statements regarding the power of a motor have no value unless they are accompanied by a definite statement as to the time taken to expend the power. If this is to be expressed in foot pounds per minute, it may readily be reduced to horse power by dividing by 33,000; or, if in seconds, by 550, as the case may be.

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## Disadvantages of Under-Production

**I**T is customary to look upon under-production as a good thing in any line of trade. If factories cannot turn out desired articles fast enough to fill orders for them, so the reasoning goes, such a business cannot but be in a thoroughly healthy condition.

As a general proposition the logic of this view will not be disputed. Judged by such a standard, therefore, the automobile is one of the most robust juveniles in the commercial family. Assuming this to be true, and without touching on some aspects of the

reverse side of the picture, it is equally true that present conditions in the automobile trade have their drawbacks.

For example, leaving the would-be purchaser entirely out of the discussion—there is the agent to be considered. His position is difficult at best. Slow and uncertain deliveries make it doubly so, and in the absence of any immediate prospect of a material betterment the agent is frequently sorely put to it to stand between his customer and the manufacturer.

To tell the impatient buyers the truth would certainly not help matters. Every agent knows the value of diplomacy at certain times. No better opportunity to make use of it could be found than when he is called on to balance the scales between an impatient customer waiting for an automobile and a manufacturer delinquent because he is overburdened with orders beyond his ability to promptly fill.

It may be said that the agent at least acts with eyes open. He knows that even yet the makers of popular vehicles are unable to deliver with promptitude. Consequently, any promises of immediate delivery which the agent may make his customers are based largely at least, on false pretenses. He knows that such promises cannot be fulfilled. The result of it all is that there is a dissatisfaction all around that effectually prevents that feeling of kindness between buyer and seller which more than any other tends to make any business a lasting success.

Of the two extremes over, rather than under, production temporarily tends to the customers' and the agents' comfort, however unpleasant it may be to the manufacturer.

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## One of the Chief Charms

**E**VEN the most rabid and opinionated of its detractors must admit that the motor vehicle exercises an extraordinary charm upon those who come within its "sphere of influence." It is worth while, then, to say a word or two in explanation of that charm, and to make the public realize that the enthusiastic automobilist is not necessarily a mere crank swayed merely by fashion and novelty, but has reasons for the faith that is in him.

The essential and controlling charm of the mechanical vehicle is that it increases one's freedom of action while reducing the friction of life. A metaphysician might describe automobiling as forming an important part of a timely reaction toward individualism



and simplicity of action engendered by the temporary triumph of collectivism as applied to transport.

The railway train is necessarily collectivist. A passenger train starts and reaches its destination owing to the combined volition of a large number of persons who want to travel, let us say, from New York to Boston. But in order to satisfy these volitions and make them executive they have to be marshaled and organized, and so, in a sense, shackled. A railroad train, with its engineer, brakeman and conductor and fixed places of stoppage, is a creature of strict rules, and those who travel on it must temporarily surrender their private wishes, or, a portion of them, in order to co-operate with others.

The man who takes an automobile and drives it along the open road, is, as it were, a freeholder, also with some of the freeholder's freedom—though, doubtless, also with some of the freeholder's limitations and weakness and isolation. Still, the charm of freedom he stops when he likes, and he can be independent of his fellows.

This charm, of course, belongs in theory to any carriage, from an ox cart to a landau, but in practice it does not operate in such cases except over very short distances. The lust of time-saving is too powerful and gives the advantage to the train.

No horse can go at the rate of twenty miles an hour for three consecutive hours, and at the end of the three hours be ready and able to go on for another three or eight or ten hours. It is its tirelessness which makes the automobile quite a different mode of transport from the horse, and gives it its superiority.

With the automobile you have a perfect method of moving from place to place which is as tireless as a train and which, for ordinary journeys, is as quick as the train, and yet one which is individualistic and independent, hence its charm, an appreciation of which is not easy to one who has not personally experienced the enjoyment of automobiling.

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Users of the automobiles should reflect. The mechanical carriage is still an innovation. Society has not yet adjusted itself to the change. People are accustomed to using the thoroughfares without having to care for more than the rattling car, or wagon, or carriage, whose sound gives warning of its approach. They are not yet used to the swift-moving, noiseless automobile; and the result has been frequent collisions, damaging to the collider and collidEE, to adapt a legal expression to meet a new necessity of language. This has

tended to excite a hostility to the new vehicle that has found expression in enactments of ordinances restricting the use of automobiles in a manner often unjust. It is sure, if persisted in, to result in even more and more stringent regulations, that will impair the pleasure and benefit of motor vehiclism. Now, this is a condition wholly within the control, in the first instance, of the automobilists, either individually or through their clubs and kindred organizations. In the next instance, it is in the control of society, acting through its police force. It rests with the users of automobiles to say which method shall be used. One or the other will be.

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Just why the route from Newport to New York should be chosen by sensation-seeking automobilists for record-making attempts is difficult to understand, unless it is that the word Newport is supposed to give a gilding to the performance not possible with any other word. Aside from this gilt idea a far better route and one over which checking and such like essentials for the making of a real record could be secured between New York and Philadelphia is mapped out elsewhere in this issue. Over this route records by horse, coach and bicycle exist, and the automobile would thus have something more tangible than a bogie performance to test its ability against.

---

One of those clever Frenchmen whose constant study it is to make perfect the automobile claims to have entirely eliminated all sparking troubles by means of a combination of the good points of both explosive and electrical ignition. Spongy platinum and carburetted air are the prime essentials in the new idea. We sincerely hope that the Frenchman has been successful, as there are few things which have added more to the labors of the recording angel than defective sparking has.

---

French statisticians claim that the cost of wear, tear and repair upon the pneumatic tires of public vehicles used in the streets of Paris is in excess of 20 cents per day for each vehicle. With no knowledge of the figures used to determine this French claim we are inclined to believe that the rate of five cents per wheel here given is much below what the up-keep of a pneumatic tire will average on a vehicle which plies for hire through the public streets of any city not excepting Paris.

To-day the world annually consumes between 60,000,000 and 75,000,000 pounds of crude rubber; forty years ago 10,000,000 pounds was considered an ample supply for three years ahead. No one thing is responsible for this great increase in rubber production and consumption, but the demand for rubber tires, more than any other, has been responsible for a large portion of the increase.

---

The employment of automobiles for military purposes is not new. Steam road locomotives were successfully used in warfare as far back as the Crimean campaign, and afterwards by the Germans in 1870 and the Russians in 1878. Even the crude vehicles thus employed demonstrated that neither steep ascents nor bad roads presented unsurmountable difficulties to military automobiles.

---

The Allgemeine Schrauberl Club, of Munich, has offered prizes for the best synonyms replacing the French terms for automobil-ing. The gentleman gaining the first prize formed from the Greek root *aut*, the derivative *autler*, the driver, and *auteln*, to drive, an automobile.

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It is impossible to satisfy everybody with a single type of vehicle; and yet those who seemingly endeavor to avoid satisfying anybody seem to have almost as difficult a task.

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In curing the ills to which even the best of motors at some time or other become afflicted, it will be found that an ounce of patience is worth a pound of profanity.

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Neither progress nor the automobile have succeeded in eliminating all the people who think a horseshoe is of more use over a door than on a horse's hoof.

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A lawyer is a learned man who rescues your automobile from the damage seeking owner of the horse it has frightened—and keeps it for his trouble.

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No vehicle owner is truly wise who has never at some time in the course of his ownership considered himself a chump for choosing the one he did.

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If finding fault were a useful occupation a great many automobilists would have no difficulty in deciding what they were created for.

## Light Reflecting Powers of Metals

IN the construction of the powerful lights demanded by automobiles, a study has been made by a foreign lamp maker of material, etc., which has resulted in some interesting facts being discovered as to the varying reflective power of metals; that is, in the percentage of light falling upon them which they will reflect. It was found that reflecting power varies greatly with the color of the incident light and the nature of the reflecting surface.

For example, gold, which reflects only 37 per cent. of green light, reflects 75 per cent. of yellow light and 90 per cent. of deep red light. Of all substances polished silver has the highest reflecting power, varying from 91 to 95 per cent. according to the color of the light.

For yellow light various substances have the following percentages of reflecting power: Silver, 92.5; nickel, 62.6; steel, 55.1; gold, 74.7; copper, 59.5; glass mirrors with silver backing, 82 to 88; glass mirrors with ordinary or quicksilver backing, 71. The success achieved by the makers of some of the expensive French lamps and the failure of so many of the just-as-good-but-cheaper imitations thereof, is not altogether disconnected with just such an analytical study of the subject as is shown in the figures above given.

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### A Revised Charm

"Is Scorchmore superstitious?"

"Is he? Well, I should say he was. He's got an automobile tire hanging over his door for luck."



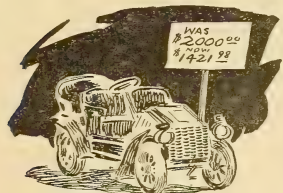




**T**HE Freeport, Long Island, anti-automobilistic official is neither dead nor sleeping, so recent events prove. His latest victim is W. D. Guthrie, a New York gentleman, whose business and whose address is in Wall street, where his clients find him of value to talk at so much per talk for railroad and other trusts capitalized at a few hundred millions or so; in other words, Mr. Guthrie is a famous lawyer. It was Mr. Guthrie's daughter who ran into the Freeport automobile net, and her eminent father was soon on hand to tell District Attorney Nieman that he was present to defend the fair speed-law violator. The promptness and vigor of Mr. Guthrie's defiance made the District Attorney and his co-conspirators turn several legal flip-flaps before they recovered their usual selves. Mr. Guthrie asked for a continuance, and it was readily granted, though it is extremely doubtful if that case will be ever heard of again.

Mr. Guthrie is considerably worked up over the matter and suggests concerted action on the part of the automobilists against the recently incorporated Long Island Anti-Automobilist Association, which is said to number among its members some of President Roosevelt's relatives. It is not likely that the President himself will join this anti association—he don't care much for antis of any kind—although he is addicted to the horse habit, but even if he did, the family is safe because fair Miss Alice Roosevelt admires the automobile and makes frequent use of it. For the sake of the prestige that the automobile would get, I would really like to see Theodore Roosevelt become the owner of a great big racer and use same in order to dodge the trolleys, for if he had one of those big fellows he might be able to put some of the trolleys out of business, and goodness knows that would be a blessing. This recommendation is also extended to Governor B. B. Odell and the Hon. Timothy L. Woodruff, who have also been recent sufferers from the trolley car terror.

A New York agent the other day complained that he had to pay full agent's price for a demonstrating car to a manufacturer whose agency he had just taken for New York. This agent, as well as many others, is of the opinion that the manufacturer should meet the agent half way when it comes to the demonstrating car, which of course becomes second-handed after a few weeks' work and must be sold at a second-



hand price. This and the guarantee the agent thinks will be important subjects for the Manufacturers' Association to consider in the near future, as there is much complaint about both questions among the agents. The guarantee of 60 days may be all right at the present stage of automobile making, but the time will soon be here when some manufacturers with confidence in their goods will increase the 60 days to six months or possibly one year. The tire manufacturer guarantees his tires, and now a wheel manufacturer is out with a year's guarantee, so all the automobile builder has to guarantee is his engine and his running gear. It is the shady manufacturer that wants a uniform, short-time guarantee; he's the man who is afraid of his goods, and he is the one who has done the automobile industry the most damage. A guarantee of 60 minutes would about suit him; just long enough for him to get the purchaser's money.

Score one for James M. Seymour, of Newark, N. J., who recently vetoed the ordinance framed by the local authorities to regulate the speed with an assortment of fines and imprisonment for speed violators. In his veto message, Mayor Seymour rightly took the ground that it was special legislation against a particular class of citizens and that the council had no more right to pass such laws than they had to pass similar legislation against drivers and riders of horses. So well taken was this point that it is said the council will not pass the ordinance over the Mayor's veto because of a threat from him that he would carry the case to the State Supreme Court if necessary.



New Jersey is palpitating at present with all sorts of threatened ordinances, and this because of a criminal recklessness of a few rattle-brained automobilists who ought to be locked up for the sake

of their own and the public safety. Judge Dixon, a prominent State official, in charging the Bergen County Grand Jury, ordered the Jury to indict reckless automobilists because of a death some time ago which resulted from a runaway team which runaway may or may not have been the fault of the automobilist. The judge, however, laid down a pretty good law which all good automobilists will approve of, and there is no doubt but that those who have the best interests of the machine at heart will strengthen the hands of the law in that respect. Said the Judge:

"If the drivers of this machine were guilty of negligence in running at that rate of speed, and if they knew that in going at that speed they were liable to cause such an accident, resulting in death, they were guilty of manslaughter. There is, however, another aspect to the case," the Court continued, "and that is that the drivers of the machine were guilty of creating a nuisance if they rode at that speed or at any other excessive speed.

"The roads are for the common use of all, whether a person chose to use them on foot, on horse, on bicycle or in a vehicle, and any person who uses them so as to endanger others in the exercise of their right, is guilty of creating a nuisance. The automobile has no more right on the highway than any other vehicle, and it was time that an end was put to their abuse of the road." Resuming, the Court said:

"It is within the observation of everybody that these machines are run at an altogether excessive speed, endangering not only the lives of their own occupants—and that perhaps is not a matter of much concern—but the lives of everybody else. That constitutes a nuisance, and for that they should be indicted. It is not a matter of municipal or local ordinance, but it is a State law. It is not statutory law, but it is common law, as it comes down to us from our ancestors."

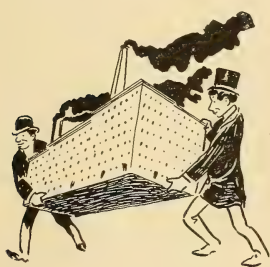
Automobile clubs are not growing with that rapidity which characterized the growth of bicycle clubs of years ago. It would seem that the automobilist is not attracted over much by club life. In Boston it is said the Massachusetts Automobile Club will not admit men of the trade, as the members wish to keep trade influence out of the club. I am afraid that this club will not be overly successful if it intends to continue its discrimination against men of the trade. The trade is always ready to contribute toward clubs or anything else that will benefit the sport, so there is no reason why tradesmen



should be barred from a club. To the contrary, their knowledge of machines and other matters ought to be of benefit to any club they might associate themselves with. There is talk of a rival club in Boston as there is in New York. Both of the new clubs will have a large trade element in their membership, and it seems to me that there is plenty of room for two clubs in the cities named.

---

The new factory which the Winton people are about to take possession of in Cleveland will, it is said, be the largest individual



plant in the world devoted solely to the making of automobiles. Alexander Winton and his two co-workers, George H. Brown and Mr. Henderson, are to be congratulated upon this expansion. For once a pioneer prospers, the Winton having done a lot to popularize American-made automobiles, and the fact that many good Americans have paid bonuses this year to get

Wintons, is the best proof that their maker is all right and is a prophet in his own country. You can change the spelling of prophet to profit and the statement is equally as true.

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THE AUTOMOBILE MAGAZINE is constantly in receipt of letters from readers complaining that they have been swindled; there is no other word for the trick some manufacturers have of demanding money in advance and then keeping the purchasers waiting six months before he gets anything but excuses. This is a dangerous policy for any concern which expects to remain long in any business to pursue.

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I do not know who invented the slogan used by the Oldsmobile people, which is "Nothing to watch but the road," but all the same that is the best catch phrase in the business, and I am surprised that it has not been more used by the company which started it. Just repeat it and see what a reassuring confidential twang it has, "nothing to watch but the road."



You can imagine yourself skimming along a country road, with your arm around your best girl, and the carriage in which you are seated just taking care of itself. There is



no doubt but what the Oldsmobile Company has done some mighty good work in popularizing the automobile since there is no denying the fact that you see more Oldsmobiles all through the country than you do of any other make of machine, and I am glad to testify to this fact. Anyone can run the Oldsmobile and that is the type of machine the people want.

Mr. DeBois, the automobile broker, told me a story the other day, which illustrates the popularity of the Oldsmobile. It is a well-known fact, which will bear repeating, and that is that there are fewer second-hand Oldsmobiles for sale than any other make of vehicle, although the editor tells me a Minnesota man is advertising one in this issue, and I can see a rush for it. Mr. DuBois tells his experience this way: "Like other people, I had been trying to get hold of a second-hand Oldsmobile, and it was hard work. Eventually I got one, and immediately advertised it. The rush to my office was something positively awful and I could have sold that one vehicle twenty times over. In the end it got me into no end of trouble with one man who almost threatened to murder me because while he was out getting his money to pay for it another man gave me \$25 more than the advertised price and, of course, I took it. I had to telegraph my wife that I could not be home for supper, since I had to take the disappointed man out and treat him to supper just to make him forget his troubles. I wish I had nothing else to do but sell automobiles as popular as the Oldsmobile, to do that is just like finding money."

A gentleman who will have traveled about 20,000 miles before he reaches home, was a visitor at THE AUTOMOBILE MAGAZINE office recently. The gentleman was W. A. Scott, of Dunedin, New Zealand, and he has been identified prominently with the bicycle trade in his country for several years. Mr. Scott is now preparing to embark in the automobile business, and came to the United States via Eng-



cided that the Prescott was what he wanted in steam, and he then wanted to connect with a vehicle of the Olds pattern. He thought possibly that electric automobiles, of the runabout type, would eventually become popular in New Zealand, but for the present he considered that steam and gasolene would be about all his possible customers would buy.

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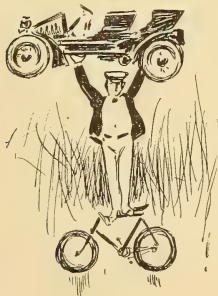
George H. Day, president of the Electric Vehicle Company, has always contended that the electric vehicle would eventually win out, and through his efforts alone much of the popularity of the electric vehicle can be traced.

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Mr. Newby, president of the National Vehicle Company, made a most sensational run with one set of batteries the other day in Indiana, doing over a hundred miles with one battery charge. This goes to show that batteries are getting longer lived, and we can soon anticipate the 100-mile battery, which will at once make the electric vehicle a dangerous competitor of the gasolene type of vehicle.

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It is always pleasing to see young men successful, especially so if they are deserving of success. While in Detroit the other day,



I paid a visit to W. E. Metzger, one of the brightest and most energetic young men in the automobile business. Like many of the other good ones in the automobile trade, Mr. Metzger graduated from the bicycle business and is a pioneer automobile dealer. His present palatial establishment on Jefferson avenue is the result of things accomplished already, and an abiding faith in the future of the automobile.

As a bicycle agent, W. E. Metzger was a bright light among lesser luminaries in his city. I remember when he was selling bicycles at Christmas when his competitors persuaded themselves that it was an off season and were not trying to do any business; he is doing the same thing in the automobile business to-day.

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In Chicago I found Ralph Temple, of the Temple Austrian Company, who they say made \$10,000 selling one type of machine, the Olds, last year. As a bicycle jobber Temple took the entire output of three factories. I know young Temple well, as we traveled together for over a year in Europe, and a more trustworthy and capable man than he is it would be hard to find.

Regarding the roads of New Zealand, Mr. Scott said they were level enough, but that the material used for their building was crushed rock which was not always laid properly, with the result that it was loose and rolling, a condition of affairs which the dry atmosphere and lack of rains greatly aided. At its best, New Zealand is a hard country on tires, Mr. Scott said, and the Dunlop form of tire was in favor there over all others at this time. Speaking of the prospects of automobiling in New Zealand, Mr. Scott said that New Zealanders for the most part considered the automobile a gentleman's toy, and too expensive for the ordinary man to use. This opinion, he said, was because they had not yet considered it as a business proposition.

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Speaking to a well-known doctor the other day, I asked him which of the different powered automobiles in his opinion the doctors would eventually take to. His reply was that as far as his acquaintance with automobile using was concerned he was of the opinion that their likes were about evenly expressed between the electric and the gasolene vehicles. The doctor himself, however, believed the electric automobile would eventually command the favor of practising physicians, particularly now, when it is possible for the owner of an electric to put in his own charging plant like the one advertised in another portion of this issue, thereby making the owner of an electric independent and in possession of a vehicle whose noiseless and always-ready features appeal most strongly to him. He spoke of a brother doctor, the owner of a very boisterous gasolene vehicle, who told him that while visiting a very nervous patient he always left his machine about a block from the patient's residence, since the choo-choo of the motor was more than she could bear. With an electric he said he could have gone right up to the door, as in fact he might have with a steamer, but he thought the latter required too much care for a busy doctor to attend to.

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Another of the old bicycle brigade is the alert Prince Wells, of Louisville, who was a successful bicycle agent and is now duplicating his bicycle success with the automobile. Prince is still a young man, this side of thirty, I believe, but he owns a beautiful

home, and the store, which he also owns and in which he does business, is the largest of its kind in Kentucky.

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As a fourth example of how the prominent automobile man is quickest made from the man who sold bicycles successfully, let me point to Harry Hearsey, one of the officers of the National Vehicle Company, of Indianapolis, president of the Hearsey Vehicle Company, which has large warerooms on the Circle, of that city. Mr. Hearsey commenced in the repair shop of the first bicycle agent in Boston, then went West to grow up with the country, and he has grown so fast that he is now one of the solid business men of Indianapolis, and yet he is only a young man. Mr. Hearsey was one of the most successful bicycle jobbers in the West, and when he is not devoting himself to his family or his extensive business finds delight in a large colony of English bulldogs and Boston terriers, the kennel habit being strong within him.

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I ran across a new candidate for automobile favor in the Standard Anti-Friction Equipment Co., of 50 Broadway, N. Y., recently. This company has for some time been experimenting with and perfecting an automobile tire of the single tube variety, with the result that the tire is a truss cushion and looks to me to be all right. The tire is the invention of Col. W. F. Beasley, of North Carolina, hence the name of Be-No-Ca given it. This tire, Manager E. B. Cadwell, of the Standard Anti-Friction Co., thinks, will become extremely popular since the aim of its inventor has been to retain the good qualities of the pneumatic while acquiring the strong features of the solid for lasting purposes. Mr. Cadwell is of the opinion that the Be-No-Ca has all the resiliency required without any danger of having to pay for it by constant repair work. If all things were perfect the automobile tire would of course be so, but as most things are not perfect the automobile tire is with the majority. When you come to consider what is required of a bit of rubber and some fabric when they are combined into a tire the wonder is that they succeed at all, not that they fail occasionally. The tire maker is to me a genius to whom I am always willing to doff my hat.

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The plan of the Manufacturers' Association, or rather its proposed plan, to send an American exhibit to the next English show, is to my mind the proper caper, providing, however, that the manu-



facturers are ready to do some business abroad. An exhibit would certainly prepare foreigners for the forthcoming invasion of the old country by the American automobile manufacturer, since invade it he certainly will just as soon as his manufacturing wings are strong enough. I would like to see an American exhibit sent over there if only for the purpose of informing those who don't know that the United States is taking a mighty prominent part in automobile building these days. Dealing with the Manufacturers' Association reminds me that the labors of the secretary, Harry Unwin, is being felt, he being a conscientious and effective worker, than whom no better man could be selected to take charge of a foreign exhibit.

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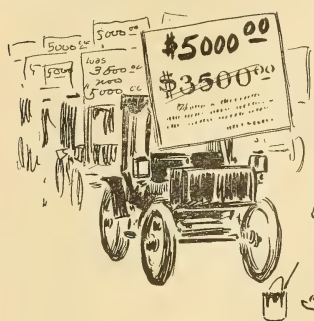
Dealing with automobile shows reminds me that many people are of the opinion that the 1903 ones are too late. The objectors declare the shows should be held this fall, in November, say. Personally, I really believe that October would not be too early. Nearly all the 1903 models are ready by that time, especially those which would be exhibited, and it seems foolish to hold a show just before the opening of the spring season, which will rush the manufacturer and no doubt lose him a lot of sales. If the shows were held in October and November, the agent and individual purchaser would place their orders then, thereby giving the manufacturer sufficient time to get his goods ready for early delivery. The same thing occurred in the bicycle days, and the only excuse advocates of the late show had was that they didn't want the other fellow to see what they had early enough for him to copy it in time for the spring trade.

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There seems to be a want of good plain and catchy names for automobiles. The present run of names is not appropriate. In the bicycle days we had the manufacturer's name, or the names of cities, now we have a lot of "mobiles," gas, steam and other sub-names being prefixed thereto. There is plenty of room here for improvement, and I hope to see it, although once named it is hard to rename an article of commerce.

The entrance into the automobile business under their own name of the Pope family is interesting and will surely lead to good



results for the trade at large. The business methods of the Pope Manufacturing Co., which were of the best, will undoubtedly be brought into play in the Pope-Robinson Co., of Hyde Park, Mass., which is the successor to the Robinson Motor Vehicle Co., of that place. The treasurer of the newly reorganized company is the well-known Edward W. Pope, a

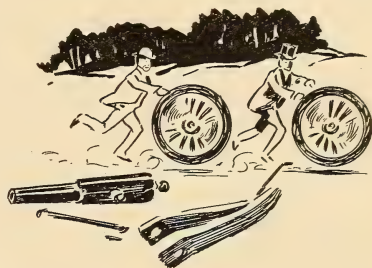
half brother of Col. Albert A. Pope, who is noted for his business conservatism and thorough business methods. The first thing Mr. Pope suggested when he became interested in the company which, by the way, is said to have some of Col. Albert A. Pope's capital in it, was to raise the price of the Robinson vehicle from \$3,500 to \$5,000. The old Robinson vehicle did very good work, and its run from New York to Buffalo last fall was one continual picnic for the party who occupied the Robinson touring car. The new Pope-Robinson vehicle will, it is said, match anything yet produced on this side of the water and will compare favorably with the best imported. Mr. Robinson is to remain as superintendent of the works and his efforts in this direction are to be seconded by Harold Pope, a son of Colonel Pope, who is said to have developed into quite an automobile engineer, having a good training in the famous Massachusetts Institute of Technology. The company has just completed plans for a new addition to the factory, and it is easy to see that the Pope-Robinson Co. will be distinctly in the running in the very near future.

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It seems to me that the Automobile Manufacturers' Association went a little out of their way when they lectured Thomas A. Edison, inasmuch as Mr. Edison will probably become a member of the Association when his much advertised in advance battery appears as a commercial success. I think the daily papers and the automobile press did enough to Mr. Edison, when they called attention to the fact that his battery was still in the experimental stage and that the great inventor had returned thousands of dollars to people who had made advance payments upon orders for

the promised long-distance propeller.\* It was not courteous to write about a man who will undoubtedly be a business competitor and his desire to control the business of other people, it seems to me, is not one of the tasks the Association should lend itself to, since doing so will sooner or later bring it trouble. Surely the Association has enough to do in other directions without going out looking for hard knocks.

The wheel question is no easy one to decide when the desire of the automobile manufacturer is to give his customer the best thing possible in this direction. Now that such people as the Midgley Manufacturing Co. are making an artillery, tubular patent wheel, which they declare will outlast all of the other forms of wheels, while the wire-wheel maker is equally as positive that his wheel is superior to the wooden one, the wheel question bids fair to take up some of the debating time in our clubs during the coming winter. A large manufacturer of automobiles told the writer the other day that he had previously used wood wheels altogether, but that he had become impressed with the beauty and strength of the Midgley wheel and could use a large number of them in 1903.



Wishing to know something of an authentic nature from a new user of the tubular steel form of wheel, I called on Mr. Hastings, of Hastings and Miller, the photograph supply people, of Nassau street, New York, and found Mr. Hastings very enthusiastic in his praises of the Midgley wheel. "Why," said he, "I have just ordered a new set of Midgleys for the steam touring carriage which I am building for my own use, as the ones I have used for the past year have given me the greatest satisfaction and are as good to-day as ever. I had a punctured tire once and I'll be blessed if I didn't go 80 miles on the rim of that Midgley wheel, and when I got home that rim did not show any injury whatever. I would like to see anything else stand such a racket as that."



I was glad to see E. R. Thomas, of Buffalo, change the name of his company, as the old one was too long and not easily remembered. After October the 1st, it will be the E. R. Thomas Motor Company, and the Buffalo Auto-Bi—and the rest of it will go into oblivion. Mr. Thomas seems to have struck his gait at last, for he did a good deal of preliminary scoring at the wire before getting the word "go." When visiting the plant recently, I saw a lot of new machinery was being taken into the works, while out in the shipping department was a batch of automobiles destined for 'Frisco. Under the new régime I understand the present magnificent works have been found wanting in capacity, and so a new addition thereto is planned. It is said that Mr. Thomas bought the real estate to great advantage, while the material for the structures came for the most part from the Pan-American buildings, so the completed plant, fine as it really is, cost less for its size than any like building in Buffalo. This shows what a wide awake man Mr. Thomas is, and the fact that a big western millionaire has just put a lot of money into the Thomas concern also shows that capitalists are always willing to do business with a business man. Not a little credit for the Thomas success is due to Mr. E. B. Olmsted, the general manager for the company, who is a tireless worker and an intelligent one as well, and it is quite likely that with the new order of things Mr. Olmsted will profit also.

Mr. Munger, of the Trenton, N. J., Tire Company, which bears his name, gave me a sort of illustrated talk the other day, at his



factory, on the importance of having tires firmly secured to the rim of an automobile wheel. Mr. Munger drew attention to a fact which is not always remembered, and that is, the tire and only the very small part of it which is in contact with the ground at that, is the only thing which starts and stops an automobile, since if the wheel did not stop neither would the vehicle. Mr. Munger drew attention to the insignificant and, it seems to me, totally unsafe lugs that are used for fastening the tires to the rims. When you come to look at these it is no wonder that we hear of tires creeping and pulled-off the rim. "Of course I am making these tires for manufacturers," said Mr. Munger, "but I would much rather make



our own safe style of tire if they'd take them. If a tire is not securely fastened, it is certain there will be trouble, either stopping or starting, and the suspicion has gone abroad that the recent fatal accidents were caused in a great measure by defectively fastened-on tires."

With the perfume of the Scotch heather on him, our Chief, Mr. Angus Sinclair, has returned from his annual two months' trip abroad. Among the pleasant recollections brought back with him none is more enjoyable than that of his game of golf while a guest of his old friend Andrew Carnegie. Writing to the office from Skibo Castle, Mr. Sinclair said: "I must own to defeat at the brawny arms of Andrew Carnegie, but I am going out to play in the morning with, I think an easier mark, John D. Rockefeller, Jr., who is also a guest of the castle."



Messrs. Carnegie and Sinclair labored together on the Pennsylvania system years ago, and a close and intimate friendship has ever since been maintained between the now few hundred times millionaire and the publisher of *THE AUTOMOBILE MAGAZINE* and *RAILWAY AND LOCOMOTIVE ENGINEERING*. Alfred Harmsworth, the great London publisher, who conducts and owns some fifty publications, including large dailies and magazines, gave Mr. Sinclair a warm welcome, and the Chief was given a free lever over a lot of Mr. Harmsworth's various automobiles, which the progressive millionaire uses exclusively for pleasure and business purposes.

Mr. Sinclair was much impressed by that splendid publication, *The Car*, of which the Hon. John Scott Montague, M.P., is editor and owner. *The Car* has the patronage of King Edward and the automobile nobility, and the King is often seen with Mr. Montague, the pair doing a lot of touring at times together. In future *The Car* will have an American letter from the pen of Mr. Sinclair.

THE SENATOR.

## As Good As It Looks

**I**T had been rumored prior to last October that the automobile made by the Robinson Motor Vehicle Co., of Hyde Park, Mass., was a first class affair. Those competing in the New York-Buffalo run in the trying week of the run will not forget that the Robinson more than made good the promises of its friends. The Robinson party, four in number, looked high grade in keeping with the machine when they started out, and unlike some of the less lucky competitors, they looked high grade when they finished.



The newspaper men, some of whom dodged the issue, will remember the cheering sight which greeted them between Syracuse and Rochester, when from their comfortable perches on a special train, they observed the Robinson party proceeding along those awful roads as if on a picnic run. As they passed the little depot, the newspaper men and the bystanders involuntarily broke into a cheer as the Hyde Park party swept onward, apparently undisturbed by bad or good roads, so stanch and strong was the vehicle they were riding in. The illustration herewith shows the latest Robinson product, which certainly looks to be a worthy descendant of its illustrious New York to Buffalo forebear.







WHEN ALL GOES WELL

*H. Morris*



# THE AUTOMOBILE MAGAZINE

VOL. IV

NOVEMBER, 1902

No. 11

## Reliability Contest † † New-York to Boston and Return



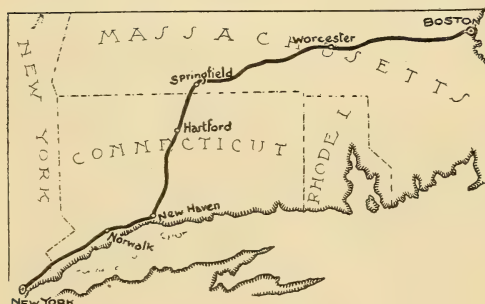
**I**T was a notable and altogether the most instructive automobile road-week up to this time in the United States. The reasonable expectations of all concerned were for nothing less. Coming near to the end of a year, marked by large effort and substantial all-around progress—an event scarcely possible to be duplicated for a six-month at least—any failure would have been unduly multiplied to the disadvantage of the sport and industry.

Conversely, the opportunity to show a new and higher average of road performance would mean an impulse to the whole movement on lines broad and deep, accompanied by increased activities on the

part of designers and builders, as well as by large accessions to the rank and file of owners and users.

The real test of the motor vehicle to-day is in its ability to carry operators and passengers with comfort and certainty over the streets and highways as they are, not as the future will give them to us. All other requirements, not excepting even speed, are less essential, though all of them are important in the improvement and final high efficiency of the self-propelling machine. Toward this useful end the special efforts of the year have been directed; and it was inevitable as well as fitting that the different lines of their progress should somewhere meet. The only proper place was on the road, the best scheme a "Reliability Run," with the element of competition present, but held in half-check. It was an opportunity for each man to back up his faith with the product of his thought and work.

Participants incurred no little expense (entrance fee alone \$50



each vehicle) for the privilege of going in company with their associates or their rivals over a series of six separate and stated days' journeys, but with an uninterrupted responsibility from beginning to end. In the test, publicity and record were to

be given, not to appearances and single notable performances, but to mishaps, irregularities and the like. The semi-oblivion of the "Not reported further" contingent was ever ready to settle down upon the unfortunate as well as the laggard. It was a case of summoning all the foes of automobilism to meet its picked champions in road combat, and on terms of their own choosing. Triumph over such conditions is evidence of a thing grown strong.

Of the large number of vehicles which assembled in the vicinity of Fifth Avenue and Fifty-eighth street, New York, on Thursday morning, October 9, seventy-five had been entered, weighed, numbered and made ready for the round trip to Boston. They were lined up in two close columns on West Fifty-eighth street until the hands of the Plaza Bank clock pointed to 9 o'clock, when Starter Thayer gave the word which transformed the waiting vehicles into one long moving line. With the cars carrying the officials, and the

independent followers of the run, the procession stretched the whole length of Central Park East, about two and a half miles, with only a streak of daylight between some of them. Five of the original eighty entries had withdrawn, but their absence was unnoticed except by close count or reference to the printed list as furnished by the club.

Whatever advantage accrued to the first vehicle to get under way came to CI, the large Packard operated by Harlan W. Whipple, and accompanied by a mechanic and two passengers. It started on the instant, making a broad turn into Fifth avenue amid the cheers of the crowd, some of whom had come in automobiles and fashionable carriages to witness the beginning of the run. The other seventy-four were sent off at intervals of fifteen seconds, without a hitch or delay of any sort, enabling Secretary Butler and his staff to take the 10:02 A. M. train from Grand Central Station for Norwalk, the first noon control.

The route—laid out alongside instead of through Central Park—was up Fifth Avenue to One Hundred and Twelfth street, to Seventh avenue, to One Hundred and Fifty-third street, to Central Bridge, over into Jerome avenue, to One Hundred and Eighty-ninth street, to Webster avenue and Fordham road.

Thence it was over the identical through line shown in the tour in the June number of *THE AUTOMOBILE MAGAZINE*, over Pelham Parkway and its northward connection to New Rochelle, Mamaroneck, Portchester, Rye, Greenwich, Mianus, Stamford and Noroton to Norwalk.

This is one of the finest forty-five miles imaginable, either for a pleasure trip or a club run, almost all the way being over parkway



Photo. N. Y. Daily News  
W. K. VANDERBILT, JR., LOOKING  
THEM OVER



and sound shore roads, hilly at times, but in good condition all the way. Consequently there was no serious trouble anywhere on the line, every starter but one making Norwalk before the time to begin again came around. B39, a De Dion, operated by Kenneth A. Skinner, appeared first at the noon control, but ahead of schedule, so he turned back to kill time, so Whipple's Packard was first at noon control. The latter had damaged a tire, but did not stop for it, coming in on the rim and making a change during the luncheon hour.

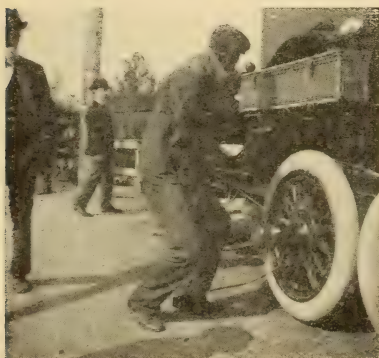


VIEWED FROM THE REAR

More dust was raised on this part of the run than any other, and contestants, observers and passengers who were in the midst or in the rear of the column suffered some inconvenience. Coming down the hill over fine pavements to the Norwalk House in a bunch—all of them dust-covered, but strong and undismayed—was perhaps the most picturesque, and certainly the largest, entry anywhere made. The swift descent from outside transformed this pleasant little New England village for the hour into a country fair, with the automobile element predominating. A single policeman paced up and down through the crowd, which had evidently gathered from far and near.



SUPPLY SHIP OF THE WHITE SQUADRON



MUSCLE MAKING TIRE EXPANSION

The single disappointment here was due to the inability of the one hotel to accommodate the automobile contingent. Its

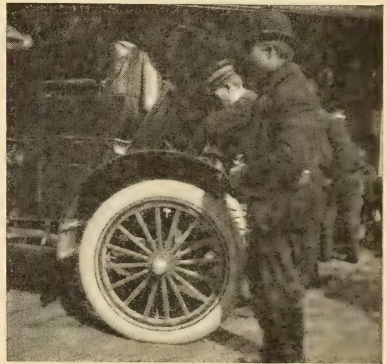


supply of tickets was inexhaustible, but realizing upon them was another matter; and in the final extremity restaurants, lunch wagons and even free lunch counters were raided, the meal tickets being given away or kept as souvenirs of the first noon stop.

Start was made from Norwalk at 1.40 P. M., the trolley cars and white arrows showing the way to and through Bridgeport and into New Haven, the first over-night control, seventy-nine miles from New York. Although American-built machines were predominant in the rank and file of the contestants, it happened that two foreign cars, Kenneth A. Skinner's De Dion and Leonard D. Fisk's Panhard, led the way into New Haven, arriving at 4:4:30 and 4:4:45 P. M. respectively. This day's run was fatal to two entries, the Neftel gasoline-electric, operated by Knight Neftel, and the Buffalo, Sr., entered by Mechaley Brothers; the former simply dropping out of sight, and the latter disabled by some careless repair work at New York, unnoticed until the trip had begun. A large crowd watched the entry into New Haven, which was made up to the center of the city, alongside the Yale University campus and on York street to a building formerly occupied as a bicycle factory. It was an ideal garage, but the supply of gasoline ordered in advance proved inadequate to the requirements of the



IN THE STABLE OF ITS RIVAL



MR. HAYNES AND C. 10



NORWALK THE NO DINNER CONTROL



WHERE BOSTON HOUSED THEM

of their pocketbooks which was supposed to be kept intact until the return end of the journey. But—for the once—there was no escape, though the memories of four and five dollars apiece for three or more persons in a single room will do for a long time.

Friday morning York street in the vicinity of the garage looked like a combination between an automobile meet and a military camp. It was cool and damp, but with a suggestion of coming warmth in the air, which encouraged the hope of a fine day. Again the entire party was sent away exactly on time, retracing the route of the night before to Chapel street, thence by Orange and Lawrence streets to Main street and the open country. All the way to North Haven and much of the way to Hartford the road is in sight from the railway, and passengers on the 10:10 train out of New Haven caught many glimpses of the procession at various points along the line.

The sand stretch on the way to Meriden was successfully negotiated by all, but there was a narrow escape from a serious accident at Yalesville, just above Wallingford. The Haynes-Apperson run-about, driven by Heber Michener, was forced into a ditch by a Panther, the road ahead being blocked, resulting in a broken spring

vehicles, and there was some delay in getting more.

If there was any doubt that the automobilists were looked upon as a good thing by the "genial bonifaces" along the line, it was dispelled when the bills at the New Haven House and other hostelries began to come in. Men in the run who were accustomed to Waldorf-Astoria rates saw that a still higher level of values (?) had been found, and reached for that side



LUBRICATING

hanger. A new one was made after two hours' work at a country blacksmith shop, and, though the Hartford control was thereby lost, start was made with the rest at Springfield the next morning. Other mishaps were of a minor character, principally tire troubles, and the schedule time of a trifle over three hours was kept to a minute by the leaders.

At Hartford a pleasant surprise awaited the men of the trade and press, together with others identified with the run, in the shape of a complimentary dinner at the Allyn House. It was the forethought of the Hartford Rubber Works, evidenced in the person of President Louis D. Parker. The leisurely aspect

of the dining-room was interfered with, however, by the announcement that the start would be made a half hour earlier than the printed schedule, which caused some hurry to get the vehicles in line. This was due to the fact that the Springfield garage, though well adapted in other ways, was unlighted, and it would be necessary to get in before dark.



SECRETARY OF THE MANUFACTURERS' ASSOCIATION



THE BELLES OF THE RUN

The run of twenty-six miles to Springfield—not only the shortest distance between controls, but with the New Haven-Hartford portion making also the shortest way's run of the three—was on Trumbull street to Main to Windsor avenue to Windsor Locks and up the west side of the Connecticut River to the bridge just south of Springfield. It was fair-to-good going all the way, with pleasant river views on the right and fine farms on the left. Roads being as a rule level and nearly all the time straightaway, the maximum of fourteen miles per hour was difficult to observe, especially since the second over-night control was a half mile out of the city on the





MESSRS. KIRKPATRICK, SCARRITT  
AND HILL



WORCESTER, MASS., CONTROL



WINDSOR T. WHITE, WITH ONE OF  
HIS WINNERS

direct way from Hartford. This fact, considered in conjunction with some eleventh-hour shortening of the route near Windsor Locks, very likely saved the first arrivals at Springfield from a penalty for coming in before the expiration of the minimum time. As a matter of fact, they commenced to arrive before all of the officials had come in by train.

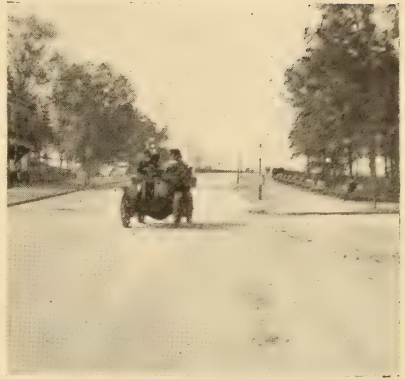
After the machines had been placed in the garage, a vacant riding academy on Marble street, just off of Main, the crowd took the street cars to the downtown hotels and prepared to enjoy the longer than usual respite which the quick trip from Hartford had made possible. There was a lot of shop talk and some reminiscences of old Springfield bicycle days, many of the participants in which were represented either in the automobile ranks or by residents who came around to meet them. In the evening a banquet at the Cooley House, tendered by the Knoxmobile Company, had as speakers Mayor Ellis, of Springfield; President Shattuck, of the A. C. A.; Chairman Scarritt, of the Contest Committee, and others.

For the third and last day's run of the outward trip, unusually full and complete preparations were made, due in part to the continued cool weather. The distance was fully 100 miles



(though officially called a trifle less), known in advance as rough and hilly in spots, and strange going to the majority. Everything that had been provided in the way of extra equipment for men and machines was called out, and as the column was made ready for its move on Palmer and Worcester, topcoats were in order, while dress-suit cases and other paraphernalia seemed to have multiplied since the evening before. The voyagers started in close file down Main street to State, thence out over THE AUTOMOBILE MAGAZINE route to Palmer, the Warrens, Brookfields, Spencer and Leicester, only to be separated from one another in negotiating the hills and rough places that alternated with the fine, new State road from end to end of this portion.

One hill just out of West Brookfield caused some stops, the passengers getting out and helping push the vehicles up. It may be said, however (though the fact seems nowhere to have been stated), that this hill is not ordinarily a part of the Boston-Springfield or Springfield-Worcester run. A shorter and much better road passes somewhat to the south, but it is now in process of repair, and therefore unridable. Whether or not stops made at this point should be charged, in consideration of



WHERE ALL WAS LOVELY

W. J. STEWART, HIS GUEST AND  
OWEN'S CAP

THE GROUT THAT WON

the special circumstances noted, is a reasonable doubt. The Spencer and Leicester hills, though equally long and steep, were so smooth and hard that they caused little or no trouble, and the control was again reached on time; two Oldsmobiles, operated respectively by Messrs. Owen and Page, leading. Of the half dozen stops outside of those on the bad hills, all were from the breaking of small parts or tire failures. Notwithstanding these mishaps, the entry into Worcester was mainly in a bunch again, the cars behaving well and lining up on both sides of the street for the noon control in a way not to interfere with the passing of the trolley cars.

Luncheon was taken at the State Mutual restaurant, there being no hotel in that part of the city, but a good automobile supply station; and as the sky was overcast and the air damp, rain was prophe-



A SEARCHMONT QUARTETTE



THROWING DUST ON THE TROLLEYS

sied before reaching Boston. Starting time came none too soon, and over the good roads for the last 45 miles the low-speed average came in for a great many good-natured but left-handed compliments. Through Shrewsbury, Northboro, Southboro, Framingham, Natick and Wellesley to Newton Lower Falls and Newton Center, to Chestnut Hill Reservoir and Boston was a perfect ride—until the very last—when the rain did come and gave the tourists their only disagreeable day's finish on the run.

Three vehicles reached the Park Square garage so close together that only the official summaries will satisfy the minds of even the witnesses—B39, Kenneth A. Skinner's De Dion; B51, Stearns' steamer, and B16, Ward Leonard. The crowd, unable to believe it wasn't a race, adjudged it a tame finish, and melted away, while the advance guard of competitors—all indeed except officials and news-

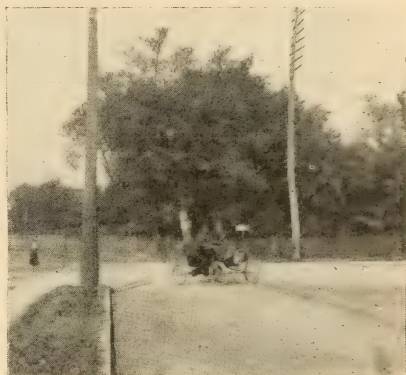
paper men—went to the night control or to their hotels without waiting for the rear to come up. Counting those who went out from Boston to accompany the vanguard into town, with the officials and the "flying squadron" from Worcester and beyond, there must have been 200 cars over the last twenty-five miles into Boston.

OVER SUNDAY AT THE "HUB."

From Saturday night to Monday morning was allowed for rest, social amenities and such repairs as contestants desired to make, while the official observers looked on and wrote down. The social side was made the more interesting by the open house which the Boston Automobile Club kept at their fine new home on Boylston street, between Fairfield and Exeter. Each person identified with the run received an invitation to the reception held there from 8 P. M.



IN NORWALK TOWN



TAKING IT EASY

to midnight on Saturday, the same being also the equivalent of a "card" to the club for so long as the tourists should be in the city. Though the night was disagreeable, the reception was attended by a crowd which taxed the capacity of the establishment. There were no formalities of any kind, neither introductions, welcomes nor adieus, but it was as thoroughly enjoyed as such an event could be.

And it was not all talk, for men who have journeyed together for three days on the road, when they meet kindred spirits in cozy club-rooms, have a way of getting down to fundamentals which means something in the way of new plans and purposes for the good of the sport and trade. Among the visitors of the evening were a party of Boston physicians with the automobile fever on. They came in by invitation of Secretary Rust, of the club, and went upstairs to look over his big Mors, which had been carried up in the elevator made





LEAVING NEW YORK

someone had tried to injure one of the cars; if so, it is certain that the culprit was without any open connection with the run. But in and about the control station the utmost freedom prevailed, vehicles coming and going at will, many owners taking advantage of the bright afternoon to give their friends—and prospective purchasers—a ride. It was whispered that some good sales were arranged for in this way. The layover of two nights also allowed those meeting with accidents on the Springfield-Boston portion to make necessary repairs and get in line with the more fortunate for the return trip.

#### HOMEBOUND AND THE FINISH

The return journey was over exactly the same route and made, of course, by much the same crowd, though a few of the non-contestants returned by train, including President Albert R. Shattuck, of the A. C. A., who was kept from participating in the return trip by urgent business at New York. The detail of the second half is naturally much less interesting than the first half, and is covered in the summaries. We therefore trace the way back by items of special and personal observation, showing some of the outward features of the run.

to lift machines up and down. If you want to see how large an automobile can appear, look at it in an upstairs workshop.

All day Sunday the center of interest was the control, though the inner rooms, where the competing vehicles were stored, was guarded with such ridiculous circumspection that well-known members of the press had an officer assigned to watch them on any tour of inspection they wished to make. Perhaps



ON WORCESTER'S MAIN THOROUGHFARE



There were a number of new observers on the way back, some of the original number having been obliged to leave, while others were apparently satisfied to let someone else go over the return portion. The latter class gave Secretary Butler considerable trouble, particularly at Boston, for it is no easy or pleasant matter to hunt up men at the eleventh hour to take the places of others supposed to be enlisted for the round trip. A clearer view of the responsibility of such an appointment would be a good thing.

From the vantage point of a stanch touring automobile, the trip across the State of Massachusetts in October is an experience long to be remembered. The trees are decked in their richest colors, the lakes and streams sparkle, and a quiet somberness rests on every landscape. A cordon of fine small towns and cities stretches from Boston to Worcester, with many pleasant views, but none excelling the descent—westbound—of Maple avenue from Shrewsbury to Lake Quinsigamond. The fine broad thoroughfare winds in and about the hills, turning this way and that until it drops you, as it were, into the lap of Worcester. It is a trip worth taking when one has more time than can be spared from a reliability run.

It was a fine row of auto-



SEC'Y BUTLER'S FINAL INSTRUCTIONS



TWO HARTFORD PRESIDENTS—MESSRS. PARKER AND DAY



THE LUNCH—HAYNES-APPERSON

mobiles which lined up at Worcester for Monday's noon control, furnishing several pictures to the newspaper men. Regular traffic—including a solid column of trolley cars—was not interfered with, suggesting the inquiry then and there whether or not as many horse-drawn carriages could have done as well with double the space. Probably not.

Another showing of the motor vehicle's adaptability happened in crossing the Connecticut River by bridge just below Springfield, where there is just about enough room for two vehicles to cross abreast. The whole line had been brought to a stop (unpenalized) by a freight train blocking the way. When it cleared the crossing there were perhaps seventy machines ready to take the bridge at once; and if this were not enough, one side of the structure was closed for repairs. It was the prettiest piece of jockeying seen by us on the trip, and so far as known no machine was stopped in the passage of the river at this point.

Of the many kinds of half-passable roads, that undergoing repairs is the most exasperating; and the worst stretch on this trip was between Windsor and Hartford. Operators looked ahead with fear and trembling, but struck boldly out to ride the edges and pulled through without stop or accident. To have broken down at this spot would have disgraced no vehicle.

At several points along the route, farmers and others held their horses out by the road in order to give them a continuous-performance view of the procession. It was not only a good scheme of itself, but it showed that the people in the country no longer look upon the automobile as a temporary nuisance, and are making an effort to get acquainted with it. When a fractious horse was met on the road, it was a ticklish problem, with a great deal of care necessary to avoid a stop—or worse. Aside from the desire to keep going, a pride in safe passage at such times was widely noticed among the operators, adding to the observant public's estimate of the automobile's adaptability, not only to the roads, but to the conditions of travel to-day.

Of the social functions on the return trip, by far the most enjoyable was the entertainment provided at Springfield by the J. Stevens Arms & Tool Co. It consisted of a theater party at the Nelson, followed by a smoker at the Worthy Hotel. Under the cover of hospitality there was not only good fun, but some sharp forecasting of new automobile developments, especially in the way of future long distance contests. During the stage performance

Percy Owen, operator of C52 Winton, leaped from his box and danced with the leading lady, greatly to the amusement of his fellow automobilists and the surprise of the rest of the audience. Later at the hotel, Chairman Scarritt, of the Contest Committee, spoke of the high average of road performance on this trip as compared with similar trials here and abroad; and then passed on to a discussion of an Endurance Run to St. Louis for 1904, with no elaborate route outlines, arrangements for "controls" or observers. He would take a map of the United States, point to the junction of the Mississippi and the Missouri and say, "There is St. Louis; get there in not less than ten days or more than fourteen days." Such a performance would be judged, of course, on its merits as a whole, and not by isolated details of it. A sentiment was abroad among the listeners that such a project, though it might be less popular than those already held, would contribute another and valuable chapter to automobile road experience. Dr. P. E. Doolittle, of Toronto, Ont.; E. E. Britton, of New York; W. J. Stuart and others followed in the impromptu programme.

The short run from Hartford to New Haven was again made by most of the vehicles under the minimum time, so the last three miles was a competition of loafing, with ingenuity overexercised to keep from a full stop at times. Here fun broke out on the road, with a number of incidents to relieve the slow approach of monotony. Percy Owen brought in a crate of plump Connecticut chickens, which he had bought at a record price from a farmer whose usually uneventful way to market had been made a trifle exciting by meeting the procession of automobiles. There was a spill of crates, followed by a "deal," with enough in it to send the farmer away rejoicing. At the garage the chickens were handed out to a party of Yale students; and it was said by those who lingered that the aroma of fried fowl was to be noticed about the dormitories as the evening progressed. It was a matter of comment how many college men came around to the New Haven control both morning and evening. Enough of them already own automobiles to make up a club; and more of them will when books are exchanged for the working tools of life.

There was general satisfaction when Wednesday morning brought fine weather and the promise of a satisfactory and punctual finish. Contestants and observers were early at the garage, and nothing in the way of final preparation seemed to be overlooked. Sixty-eight vehicles were in line, some of them destined to partake of humiliation on the final stage, although every one eventually fin-



ished. The talk of some fine jockeying for the honor of being first at the finish had its quietus in the issue and distribution of an "important notice," signed by the Contest Committee. It stated that the official cars, two in number, and displaying red flags with the letter "C" in the center, would run into the home control just under the minimum time for the competitors, and any vehicle passing these cars en route would be immediately disqualified. It was to the point and meant business, so the possibility of overreaching at the finish was swallowed up in the reliability feature, and the latter was carried consistently through to the end.

Just two minutes past four o'clock in the afternoon the first car could rightfully come home, and four were so close together that in the time-table of arrivals they are entered alike—"4:2 flat." These were: (1) B30, Stevens-Duryea 6 H. P. gasoline; (2) A63, 4 H. P. gasoline Oldsmobile; (3) A64, 4 H. P. Oldsmobile, and B47, 8 H. P. gasoline Knoxmobile. It is thought, however, that they will stand officially in the order given. Two more tied as to time only fifteen seconds later (4:2:15), B44, 16 H. P. Darracq, and B31, 6 H. P. Stevens-Duryea. The foregoing does not mean, however, that each has a perfect score throughout, but good final runs and (especially) fortunate finishes. The main body was at the back of this vanguard, a few unfortunate ones coming in after dark, among them C43, Packard, delayed by a broken axle bearing at Bridgeport; A36, Locomobile, troubled in getting water; B49, the Italian car, from overheated engine, and B38, Elmore, stopped by some reason within sight of the finish.

#### GENERAL SUMMARY OF RESULTS

Vehicles finishing with perfect scores and thereby tied for the President's cup, and which under subsequent arrangement were awarded gold medals:

Machine and Operator.	Motive Power.	H.P.	Wt., Lbs.
Packard, H. W. Whipple .....	G.	24	2,600
Packard, G. L. Weiss .....	G.	12	2,100
Prescott, H. M. Wells .....	S.	4½	1,350
Lane, J. Harrison .....	S.	9	1,900
Haynes-Apperson, F. Nutt .....	G.	9	1,900
White, P. H. Deming .....	S.	6	1,450
White, W. T. White .....	S.	6	1,450
White, G. S. Waite .....	S.	6	1,450
*White, A. J. Scaife .....	S.	6	1,600
Grout, C. B. Grout .....	S.	6½	1,300
Fournier-Searchmont, L. Sackett .....	G.	8	2,200



Knox, Harry Knox.....	G.	8	1,400
Oldsmobile, R. M. Owen.....	G.	4	800
Fournier-Searchmont, J. Bunting.....	G.	10	2,300
Fredonia, C. P. Gathier.....	G.	9	1,300
Foster, F. J. Holly.....	S.	4	1,300
Fournier-Searchmont, R. A. Green.....	G.	8	2,100

\*Delivery wagon.

In the awarding of the cups for second, third and fourth best performances the committee, after considerable figuring, announced the following as being entitled to the honors:

Winthrop E. Scarritt Cup, for second best reliability score, won by J. W. Duryea's 6 H. P. 1,050-pound Stevens-Duryea. The twenty seconds lost by Mr. Duryea was through no fault of the machine, and so he was placed ahead of the other two. Mr. Duryea carelessly neglected to open the stop-cock between the gasoline tank and the carbureter.

George F. Chamberlain Cup, for third best reliability score, won by C. S. Mason's 8 H. P. 1,400-pound Knox. This machine lost twenty seconds through a stalled motor.

John A. Hill Cup, for fourth best reliability score, won by Harold H. Brown's 12 H. P. 1,690-pound Darracq. The operator, being unable, owing to the dust, to see the rain gullies ahead, put on his emergency brake to save breaking his springs.

The three "placed" cars scored 2,091 points each, or only one point less than the 2,092 maximum attained by the seventeen gold medal winners of first honors.

Of the remainder of the sixty-eight finishers the committee rendered the following decision:

Operator and Machine.	Av. Miles Per Hour.	Reliability Marks.
Henry B. Joy (Packard).....	14.00	2,089
O. K. Raymond (Lane).....	14.00	2,085
Elwood Haynes (Haynes-Apperson).....	14.00	2,072
W. E. Evans (Autocar) .....	14.00	2,083
Percy P. Pierce (Pierce).....	14.00	2,088
H. K. Browning (Apperson).....	14.00	2,088
Arthur Gardiner (Rambler).....	14.00	2,088
R. S. Davis (Locomobile).....	14.00	2,091
H. L. Newman (Elmore).....	14.00	2,087
K. A. Skinner (De Dion).....	14.00	2,082
F. F. Cameron (Oldsmobile).....	14.00	2,070
S. G. Averill (Franklin) .....	14.00	2,086
W. A. Sweet (Stearns).....	14.00	2,027
Percy Owen (Winton).....	14.00	2,090

## RELIABILITY CONTEST

E. A. Riotti (Long Distance).....	14.00	2,090
Charles Steffey (Pierce) .....	14.00	2,085
C. E. Proctor (Winton).....	14.00	2,074
W. J. Gould (Grout).....	14.00	2,087
Charles A. Grout (Grout) .....	14.00	2,081
Carl Page (Oldsmobile).....	14.00	2,088
L. D. Fiske (Panhard).....	14.00	2,082
C. H. Wilson (Rambler) .....	14.00	2,084
J. F. Loughlin (Packard).....	13.75	2,034
P. G. Fleming (Ward-Leonard).....	13.50	1,974
Elmer Apperson (Apperson).....	13.81	2,070
Edgar Apperson (Apperson).....	13.63	2,021
P. Nestman (Stevens-Duryea).....	13.90	2,073
S. T. Davis, Jr. (Locomobile).....	13.68	2,022
J. F. Newcomer (Elmore).....	13.65	2,031
Benjamin Smith (Packard).....	13.11	1,813
E. H. Barker (Long Distance).....	13.11	1,918
G. P. Plaintiff (Rambler).....	13.74	2,022
M. H. Winters (Toledo gas).....	13.92	2,079
A. Smith (Automotor).....	13.84	2,044
C. L. Brown (Rambler).....	13.82	2,070
W. A. Frederick (Oldsmobile).....	13.89	2,049
Park Dinsmore (Foster).....	13.83	2,070
H. Michener (Haynes-Apperson).....	12.79	1,910
H. B. Brazier (Brazier).....	12.72	1,893
A. L. Riker (Locomobile gas).....	12.68	1,895
Murray Page (Locomobile).....	12.25	1,848
R. D. Willard (Autocar).....	12.65	1,867
F. H. Fowler (Knox).....	12.03	1,798
Harry Gruitard (F. I. A. T.).....	12.28	1,812
F. S. Croush (De Dion).....	12.61	1,885
Dr. M. A. Carman (Foster).....	10.81	1,547
F. A. La Roche (Darracq).....	8.65	1,262

## STARTERS VS. SURVIVORS AND VS. CLEAR SCORES

	Gasolene	Steam	Electric
Starters .....	55	19	1
Survivors .....	50	18	0
Perfect Scores .....	9	8	0

## VARIATIONS IN THE LINE.

In Line at Start, New York.....	75
In Line at New Haven .....	73
In Line at Springfield .....	72
In Line at Boston .....	72
In Line at Springfield .....	70
In Line at New Haven .....	68
In Line at Finish, New York.....	68

## SUMMARY OF DISTANCES

	Miles
Distance officially covered.....	488.4
Distance actually covered.....	500 or more
Distance covered first and sixth days, each....	79
Distance covered second and fifth days, each...	68.6
Distance covered third and fourth days, each..	96.6
Average distance per hour.....	14
Average distance per day.....	83
Approximate total of road miles covered.....	36,000

\* \* \*

To speak separately of individual performances would be to write a history of the trip from the viewpoint of each machine; the summaries will give the general concrete result, but the details of it will never be formally brought together. The lessons learned best of all are the deductions made by men who watched the behavior of a favorite—or rival—vehicle with some special object in view; and these points will be unfolded more in the progress of the industry than anywhere else. Among the machines to attract special attention were Harlan W. Whipple's big Packard, the highest-powered car on the run, 24 H. P., with four enormous hubs, reminding one of the scythes used as axle-extensions on Greek and Roman war chariots; and the Duryea three-wheeler, in which Mr. C. E. Duryea flitted about in spectacular fashion, always ready to argue, but apparently never ready to match his machine officially with those in the run. Then there was A19, the Torbensen Gear, a gasolene machine, which came to grief at Worcester through the bursting of a tire, and after-damage to the rim. This vehicle reached Boston some hours late and had more trouble on the final run, arriving at New York about 7 P. M.

B65, the gasolene Automotor, began the run under perhaps the most exceptional conditions of them all. Its mate originally entered was, at the last minute, found to be unavailable, and this one was taken out of private service in Hartford at an hour's notice. This was Wednesday afternoon, and as there was insufficient time to ship by freight or boat, it was run through in the night to New York, and started with the rest Thursday morning. It was driven by Arthur P. and Hinsdale Smith, and had an absolutely clear record to Springfield, and though with some minor mishaps later, it finished in good shape at New York. Elmer and Edgar Apperson had brought on two heavy gasolene touring cars, the first product of the Apperson Bros.' establishment. They were finished in royal purple, and

as a novel feature, had electric lights showing from colored globes at the rear.

The veteran inventor, Thomas B. Jeffery, watched the work of the Ramblers with a great deal of interest, and rode considerable of the distance in one of them. Most conspicuous as a group were the White steamers, entered and kept together as much as possible from start to finish, and especially in the reckoning at the finish. F. A. La Roche's 16 H. P. Darracq had all of its troubles—mainly due it is said to animus on the part of a discharged employee—on the outward run, and finished with the van. The Winton, in which J. Harry Fosdick toured in Europe six weeks this summer with H. D. Corey and party, was let out of the Custom House too late to start with the run, but it caught up at Springfield and was with the advance brigade to Boston. Of the Locomobile entries, C29, the new gasolene product, operated by A. L. Riker, and C34, the heavy steam vehicle of curious design, driven by S. T. Davis, Jr., received the most attention. President Shattuck, of the A. C. A., drove his Panhard to Boston, and Chairman Scarritt, of the Contest Committee, had his Autocar throughout the run.

It is always in order to speak of the bridges that carry us safely over—in other words of the vehicles from which we have seen and kept track of the run. Different members of THE AUTOMOBILE MAGAZINE staff rode from New York to Boston and most of the way back with Mr. Elwood Haynes, in C10, the Haynes-Apperson surrey, and enjoyed the journey itself scarcely more than the acquaintance made thus the more possible with the pioneer Western inventor and builder and his staff. C10 took the ups and downs of the road like a thing of life, and the small amount of vibration when at rest was impressed upon us. In addition to the surrey, the Haynes-Apperson Co. entered a phaeton, operated by Frank Nutt, which was one of the twenty to finish with perfect records; and a runabout, handled by Heber Michener. All of these gentlemen, with H. W. Lanterman, were from the Kokomo headquarters. Another member of our staff came back in C43, entered by H. B. Shattuck & Son, of Boston, and operated by Benjamin Smith, manager of their Columbus avenue establishment. It was a strong and reliable vehicle, and though meeting with a mishap at Bridgeport, which delayed for an hour or so its entry into New York, it was a pleasant and comfortable trip throughout.

The moral effect of putting through an affair of this kind without a single accident is sure to redound to the benefit of the sport,



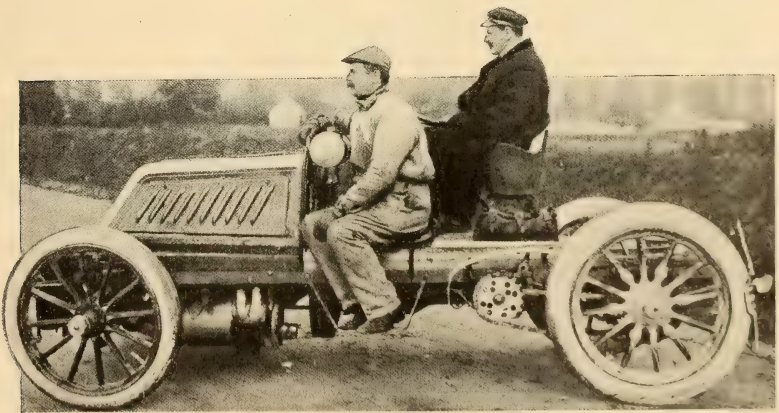
and lessen the impression that the automobile is a harm-dealing machine. If material advantage come to the trade, it will be the reasonable reward of the spirit and enterprise contributed to it. The loss which would undoubtedly have come from any failure is no longer a troublesome question; the success is already here. In the useful results, the promoting club and its responsible officials have a creditable share; they exercised direction and authority without the show of it, and thus avoided situations which might have been disagreeable. The element of outdoor enjoyment made the trip something in the nature of an outing, with the serious business of it, however, always in mind. And as for the fellowship which was shown on the road, a typical expression was one that passed between the operators of two big machines that had been looked upon something as rivals from start to finish. At their close finish in New York one remarked: "It is hard to pass or lose good people;" and the other, understanding, nodded his assent.

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### Not Powerful Enough

"Faith moves mountains," quoted the man who had been induced to buy a new kind of runabout through the faith he placed in the extravagant claims made for it by its manufacturer.

"Yes," assented one who had at one time done the very same thing, "but I've found you cannot depend on it to do the mountain trick with an automobile of this particular model and make."



FOURNIER IN HIS NEW LIGHT RACING CAR

## Merely Explanatory

**T**HAT those who are not themselves eligible to any of the following may still recognize what the words mean when they are applied to others, these few definitions are given for your benefit:

The Beginner.—The fellow who is always willing to take risks in an inverse ratio to his judgment.

The Club Boaster.—One who does his scorching almost entirely around a radiator in the winter.

The Hero.—The driver who can sit calmly in a 40 H. P. vehicle and allow himself to be passed by a noisy little grunting runabout, the idiot in charge of which has a look of contempt for the meagre pace of others in general and the hero in particular, of course.

The Hypocrite.—The person who objects to automobiling because he cannot afford to indulge in it himself.

The Philosopher.—The owner who can quote Plato and extol the teachings of Aristotle while being towed home after his new vehicle has come off twenty-second best in a disastrous conflict with a beer wagon.

The Chaperon.—An interesting personality of the stage coach days, but now a fading institution, being too aged to occupy the tonneau seat of a fast flying automobile in which the motoring maids of the twentieth century now delight.

The Tourist.—The sensible individual who takes the wine out of motorism and leaves the dregs for the scorcher and other eccentric personalities which go to make up the objectionable minority of the automobile fraternity.

The Policeman.—That august limb of the law whose eyes are ever on the lookout for such motovehiclists as cannot proceed fast enough to run away from him.

The Scorcher.—The fellow whose watch and odometer measure the pleasures of automobiling; the individual for whom the police say they are always watching but seldom capture—not yourself nor your friends, but the other fellow.

The Racer.—The one who takes all the possible pleasure of motoring, crowds them into a few moments on the road or the track, disposes of them for a silver cup, a few dollars or a trip in an ambulance.

## Over Mud-Roads

BY H. L. ALDRICH



**I**N deciding upon the purchase of an automobile, I did as probably every other purchaser has done—sent out broadcast for catalogues. With me the conditions were unusual, I having only a right hand to do all the work called for in the running of a motor vehicle.

I did not find a machine that appealed so much to my eye and that suited my peculiar requirements so well as the Remington, which, being managed entirely by the feet, all else that it was necessary for me to do was to steer and to use the throttle.

This much decided, I determined to go to Utica and study the manner in which the company put the machine together, then to have the practical advantage of running it to New York. The weather was against the trip two or three weeks before it was undertaken, for at least two weeks of which it had rained, leaving the roads in horrible condition.

Even when we left Utica at one o'clock in the afternoon of Monday, September 29, the clouds were very threatening. Feeling, however, that there could not be much, if any more, rain, we started, and before we had gone half way to Frankfort, about nine miles away, the rain began. This, however, was a small part of our trouble, for the roads were all afloat with liquid mud, and almost the entire distance was made in mud from 2 to 6 or 8 inches deep.

The farther on our journey we went, the deeper the mud seemed to be and the worse the roads became. As long, however, as the vehicle could stand it, I was determined to keep a-going. On the very steep and winding hill, just out of Herkimer, deep though it was with mud, we had no trouble whatever in climbing to the top of it. And so we went on, over-





coming all difficulties, up and down hill, through mud, until we reached St. Johnsville, the distance between Utica and there being thirty-two miles. The next morning we cleaned the carriage up, filled the tank with gasoline and waited, hoping that the clouds would break and that there would be some chance for pleasant weather. The prospects were hopeless, however, so we started at two o'clock and kept at it until we reached Fonda, twenty miles from St. Johnsonville.

Wednesday morning was no better with not the slightest hope of a change, so, in spite of the rain, before eight o'clock we were continuing on our journey. The western slope of Tribe's hill is not a very enviable incline to climb, especially with the mud several inches deep and a heavy rain falling. We went right up it, however, without apparent difficulty, although we stopped once or twice because of the heating of the transmission gear.

On the eastern or downward slope of the hill, men had been at work for weeks cutting down the grade, and before we realized the condition of things we were in the mud up to the hubs. It was the worst mess of clay and water without any bottom that could be imagined. To attempt to get out of this predicament by using the engine was hopeless, so we got a team of horses to tow us down to the bottom of the hill. By this time the automobile was a sorry sight. It was not only covered with mud about as thick as it could be laid on all over the wheels and the body, but even to the very top. We stopped long enough only to scrape off the worst of it and started on again. When we reached Amsterdam we stopped for repairs to our magneto, which had been soaked with mud and filled with grit, but not a thing else was wrong with the vehicle in spite of all the bad treatment it had been subjected to.

Within an hour we were off again, following the main road through the Mohawk Valley, arriving in Schenectady early in the afternoon, where we went to a stable to wash off the mud, cool the machinery and change the water in the tanks. The stable man advised us to continue our journey out State street, and the result of our foolishly following his advice was that we had one of the most outrageous hills to climb that was ever allowed on a public highway. Not only was this mountain deep with mud of clay, but there had been made, in some previous age, an attempt to pave part of the roadway with cobble stones and flagstones, while leaving great holes between. There was nothing to do, however, but





fight it out in that mud, and this we did, although the climb was a long and a hard one. Naturally, it was late when we arrived in Albany, it having taken nine hours for us to run only forty-five miles.

The distance from Utica to Albany, according to the records of the Endurance Test of September, 1901, is one hundred and seven miles, and we made almost all this by using the slow speed. I doubt if we were able to use the ordinary high speed clutch for more than fifteen miles of the entire distance. Despite it all we had no trouble of any kind with the engine or machinery outside of the magneto as related, and arrived in Albany in good shape.

By this time it really seemed to me as though it was right to have a change in the weather, but it was not to be. We waited until two o'clock next day, and then, thoroughly disgusted, we started for New York. After leaving Rensselaer, we took the road over the top of the hill, and if there was ever a hill that was intended to discourage automobilists, it is this one. There was nothing but thick clayey mud all the way to the foot of it and the entire hillside was every bit as bad as the road up to it.

There was 10.35 horse power in our little engine, and with only one or two stops to let the machinery cool, we reached the top of the hill and continued mile after mile plowing through mud which was oftentimes 4 or 5, if not 6 inches deep, until it was so dark we could neither see a guide post nor distinguish the road. We were too disgusted at the condition of things to care about calling upon the machinery any more that night, and, not having any idea what the roads ahead of us were, we hired a farmer to tow us into Kinderhook.

I had learned a good deal about the management of an automobile in the distance we had traveled, but I am free to confess there was not a great amount of pleasure in the acquisition of the learning. As the weather prospects did not improve at all, I left the vehicle at Kinderhook, and largely because of the interests of business went to New York early Friday morning and returned to Kinderhook Saturday night.

Even then the weather man was not on our side, although it was not raining when we left Kinderhook at half-past eight Sunday morning. Within an hour, however, the heavy mist had changed into a steady drizzle, and, by the time we reached Hudson, there was once more a steady downpour of rain. We were determined, however, not to give up as early in the day as it was, especially so long as the transmission gear held out, so we followed along the old Post road through the many changes until we reached Poughkeepsie at half-past four. It had taken us about nine hours to make something over forty-one miles, about forty miles of which must have been made with the slow speed.

Monday morning the sun really shone, but, in leaving Poughkeepsie, we found the deepest of mud all the way to Matteawan. From there, however, the roads were excellent all the way to New York. We reached Ossining about six o'clock. The next morning we were off for New York about eight and reached the Circle on Fifty-ninth street about half-past eleven.



The total distance from Utica to New York is about two hundred and fifty-six miles, and I think I am perfectly safe in stating that seven-eighths of the mileage, from Utica to Matteawan, was made using the slow speed gear. If any of your readers wish to go automobile touring for pleasure, I can speak with authority when I urge them not to attempt doing so during or immediately following two or three weeks of heavy rain.

Going down the river road from Matteawan to Peekskill, care should be taken not to lose the road as we did. After passing Garrison, we should take a sharp turn at the left, and we would have had an excellent road into Peekskill. There was no one to inquire of, and no guide board that we saw, so we went straight ahead, and, as a result, had to climb a very steep hill, paved mostly with mud and rocks, making the poorest kind of a road. This hill must be at least three-quarters of a mile long, and it is very nearly as steep as the side of a mountain. How any automobile can ever climb such a thing is a mystery. We went right up it, however, with only two stops.

Thursday evening we made the run from Albany to Kinderhook, a distance of about fifteen miles, in five hours, including the climb up the long and very muddy hill out of Rensselaer, and we thought that this was rather slow work. The next day, however, we encountered a touring car, which had a 28 horse-power engine, and which, with all that had only been able to make five miles in about eight hours over roads not nearly so bad as those which we passed over, and upon which there was no hill to compare with the one out of Rensselaer. We felt, therefore, that we really had accomplished quite a little.





One great disadvantage of the roads west of Albany is that they are universally poor, apparently receiving very little, if any, attention. In all the townships there seems to be pride in having as poor roads as possible. Between Utica and Albany I doubt if we saw half a dozen guide boards along the entire route. Added to this, was a still greater disadvantage in that the people along the route seemed to know nothing about the roads. Even livery stable keepers seemed to know very little about the condition of the roads or their direction. The most aggravating case that we met was about eight miles north of Kinderhook, where an old gentleman said in reply to my inquiry about the roads further on toward Kinderhook: "Well, my friend, I haven't been to Kinderhook for over forty years, but last time I went down the road was pretty good, and I think there was a good hotel in town."

One surprise, which has probably come to all touring automobilists, was the fact that a good horse shies but little at an automobile, while an old plug of a farm horse, that is scarcely more than a bag of bones, will perform all sorts of antics, even to attempting to stand on his head.

We had many interesting little experiences here and there in trying to find accommodations and in order to get something to eat. In one little village we went to the only "hotel." The only place to wash was in the barroom, and there we were greeted by a huge sign, "Wash Before You Wipe." So far as we know, we only killed two yellow dogs, and it so happened that both of them were in Peekskill.

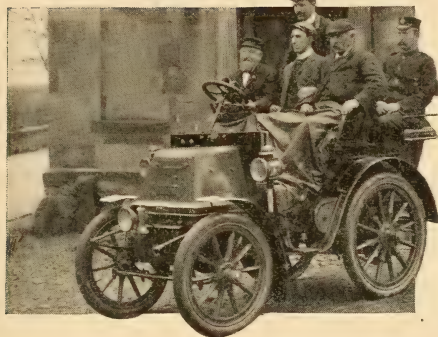
It was unfortunate that the weather was bad all the time, so that I could not get the few photographs which accompany this story.

As a final word to beginners, I would suggest that if they wish to learn thoroughly all there is about an automobile, they will find the quickest way of doing so to go off on a considerable trip where all sorts of conditions will be encountered, and an excellent opportunity had to study the vehicle at its worst. Now that the trip is over, I feel that nothing could have given me as much real information regarding the vehicle I own as my several days' experience with it over the mountains and through the mud of New York's alleged country roads. I am especially gratified that I selected the vehicle that I did, for in spite of all the wrenching and the hard work it was given, we reached New York without any engine trouble whatever and with everything else in most excellent condition.



# Automobiling in Scotland

BY ANGUS SINCLAIR



THERE is a beautiful stretch of country in Scotland called the Valley of Strathmore, which extends through the shires of Perth Angus and Mearns. The traveler going from the romantic city of Perth to Aberdeen, the Granite City, traverses the whole length of the valley of Strathmore. If he has an eye for the beauties of

nature, he will enjoy a feast throughout the whole journey, for nature has been lavish in her gifts to this region and man has labored to bring them into harmonious evidence. Clear crystal streams and silvery lochs are mixed with spreading woods and give variety of every hue to the fertile fields, from the golden wheat, through all shades, to the deep green of the bulbous crops and the purple gleam of the blooming heather.

For months I had been mentally arranging to make Laurencekirk, a most attractive spot in the Braes of Mearns, the rendezvous for various automobile tours through the most romantic and picturesque parts of Scotland. But as my native bard tells us

“The best laid schemes o’ mice and men  
Gang aft agley,”

and mine fell through ridiculously.

To go on an automobile touring expedition the use of an automobile is indispensable. I took for granted that there would be no difficulty about hiring an automobile, for there are several large towns within reach where automobile hiring has been popular for several summers. After I had made arrangements for a series of attractive tours, and invited divers friends to take part in the enjoyment, I discovered that no automobile, or motor car as they are called in Great Britain, could be obtained for two months, an eloquent testimony to the popularity of automobiling in Scotland. The kindness of a private owner relieved the situation a little and permitted me to see some parts of my native country from the seat of an automobile.

This region, like all the other hill and mountain districts of Scotland, is full of romantic spots that are hard to reach, sylvan glens and steep sided straths that form the finest jewels of the mountain scenery, but which are, like nearly all other precious things, hard to reach. There is within easy reach many a moldering ruin with picturesque surroundings that charm the eye, and historical associations that stir the emotions of every lover of his race, but they are almost inaccessible to ordinary locomotion. Many a time that I have ridden to view romantic scenes, the emotions naturally excited by the places have previously evaporated in compassion for the poor horses. The glory of riding in a motor car is that its efforts excite no pity.

The wide view across the Braes of Mearns gives a general idea of the appearance of the country, but it does not show the details of many a steep brae like those seen in the Clatterin Brig view. But there are many such braes encountered in a day's run that would have to be climbed on foot if horses were the motive power.

It is amusing how ready drivers of tourists' coaches are to tell their load to get down and walk at every steep part encountered. Later in the summer, in the course of another tour, we went by coach from a place near Loch Awe to Inverary. The distance was about fifteen miles and the willing walkers had the privilege of doing about a quarter of the distance on foot. In a lesser degree a visit to the Trossachs brought similar exercise.

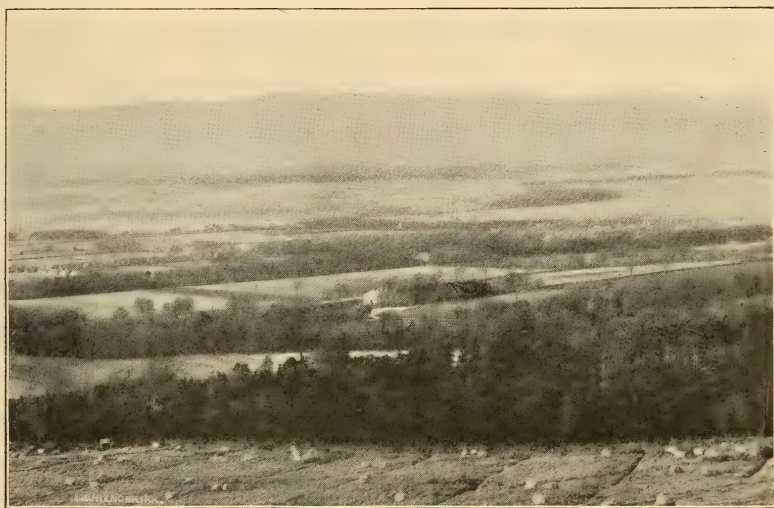
Besides being one of the most picturesque regions of Scotland, these Braes of Mearns have been the stage where many of the most realistic dramas in the history of Scotland were enacted. When the country was going through the process that amalgamated a host of warlike clans into a nation, some of the most powerful thanes, or maarmors, as they were called, had strong castles for their treasure boxes, and fierce retainers as capital. They were the original trusts. The ruins of many such strongholds can be encompassed in one day's automobile journey through Angus and Mearns.

About the period that Shakespeare lays the tragedy of Macbeth, the Maarmor of the Mearns ruled in Kincardine castle with as much authority as King Duncan was supposed to have ruled at Glamis, thirty miles away. The Maarmor of the Mearns had a fierce wife named Finella, who murdered King Kennaeth with her own hand in revenge for the death of her son, who had been slain by the king's followers. This Finella must have been a real personage,

for the valley is full of traditions about her deeds, and several places are called after her, among them the prominent hill shown in the picture of the Braes of Mearns. The ruins of the castle are still there and were part of our pilgrimage.

The roads were in superb condition—ideal highways for automobilists. There were no obstacles to the highest speed the car could make, and there were few vehicles to slow up for, so every hour took us over many miles, unless we stopped to examine places of special interest or to admire at leisure striking scenes.

A pleasing sight it was as we passed along to observe the careful maintenance of the roads. Every mile or so was to be seen a



THE BRAES OF MEARN'S

cairn of broken stones in a recess at the side of the road and on many of them worked ancient natives, cracking away with busy hammers to keep up the supply. The roads are regularly inspected and, whenever a spot shows signs of weakness, it is patched at once. It is a good illustration of the stitch in time saving nine.

This policy of keeping up the roads is strictly followed all over the British Isles. Even in the thinly settled Highlands, where human habitations are rarely seen, the roads are kept up as well as they are in the most populous districts.

We followed to the Clatterin Brig the road which leads over one of the Highland passes through the Grampian hills and then we turned to the right into the real Drumtochty Glen. The glen is about three miles long, between steep hills, beautifully wooded or





CLATTERIN BRIG

clad with heather and is the prettiest three miles I have ever traversed. Nearly all the hills seen from the Clatterin Brig are covered with a robe of unbroken purple heather, that make charming scenes, but a photograph fails to reproduce their beauty.

There is a curious thing connected with this name Drumtochty. In the Mearns it is a real name, but it is used by the novelist Ian Maclaren as the name of an imaginary glen in Perthshire where the novelist, not to the Scots dialect born, tries to make the inhabitants use language that no real Lowlander ever talks. Some of his mistakes are as ludicrous as those made by the Highlanders more familiar with their native Gaelic than with English. Highlanders are a proud race and often when together pride themselves in displaying their familiarity with the English tongue. The story is told that three of them were discussing a bottle of whisky together and one, holding up a glass, remarked, "That is the best drop of whisky I ever tasted any more before." The next one says, "And so did I whatever," while the other remarks, "And neither did I, too."

The road we followed to Drumtochty is one of the most ancient highways in Scotland and led through a much-used pass between the Lowlands and Highlands. Kincardine castle was built at the mouth of the pass to put restraint upon the inroads of the breeless Celts from the other side of the mountains. The wide-spreading pastures of Strathmore were famous for the herds of sheep and black cattle raised upon them, and were an irresistible temptation to the hungry Highlanders whose heather-covered hills provided scanty food supplies. The result of these conditions was a constant conflict between the comparatively rich and the positively poor. Society in those primitive times followed

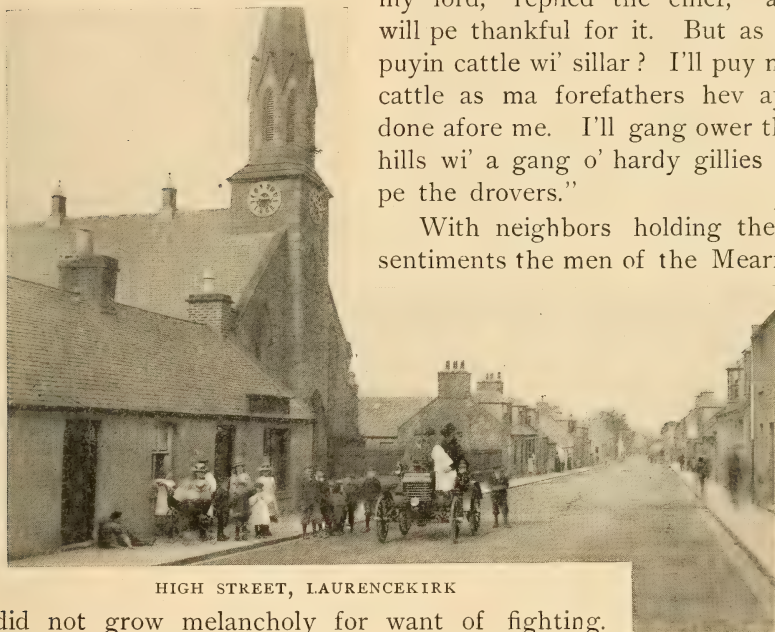
"The good old rule, the simple plan,  
That he should take who had the power,  
And he should keep who can."

The ideas of Highlanders of good Christian training and hold-



ing sound moral principles about other things were quite peculiar in regard to peripatetic property. It is said that when the Marquis of Montrose, a famous general of the seventeenth century, was passing through a Highland district he found a clan that had been robbed of all its possessions by plunderers who had escaped beyond reach. Montrose offered the head of the clan money wherewith to buy a new stock of cattle and sheep. "I'll tek your sillar, my lord," replied the chief, "an' will pe thankful for it. But as ta puyin cattle wi' sillar? I'll puy ma cattle as ma forefathers hev aye done afore me. I'll gang ower the hills wi' a gang o' hardy gillies to pe the drovers."

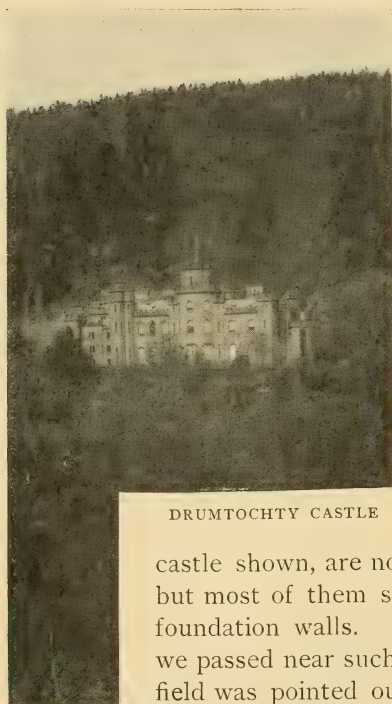
With neighbors holding these sentiments the men of the Mearns



HIGH STREET, LAURENCEKIRK

did not grow melancholy for want of fighting. They had the Highland reivers on one side, and on the other the North Sea, which brought periodic hoards of sea robbers, who swarmed upon the land like a hurricane and left the homesteads bare of everything they could carry away.

Practice makes perfect and the Mearns men became famous for their prowess in defense and offense. There is a Scots saying, "He did his best, and even a Mearns man could do nae mair." The old kings of France, from the days of Charlemagne, maintained a regiment of Scots gentlemen who were body-guards in time of peace and leaders in time of war. The Mearns men were always well represented in this regiment. The training to arms, which was their natural inheritance, made them a race of soldiers and specimens of the Dugal Dalgetty type were to be found in every army of Europe. The home supply was too great for the



DRUMTOCHTY CASTLE

native positions, and the sons of the land for many generations have come to look abroad for opportunities of employment, not only in war but in peaceful pursuits.

The valley of Strathmore, being a fairly level country, there are few natural fortifications in it where the inhabitants could easily defend themselves in case of attack, and so the laws of grim necessity compelled the leaders to build strongholds for the defense of their own and the property of their dependents. The ruins of places, like that of Edzel

castle shown, are now to be found all over the region, but most of them show only moldering fragments of foundation walls. Every few miles during our tour we passed near such interest marks, and many a fertile field was pointed out as the scene of some conflict of sufficient magnitude to be marked by a stone or cairn,

while the victory or defeat stamped itself deeply enough to have the story carried down by tradition through succeeding generations.

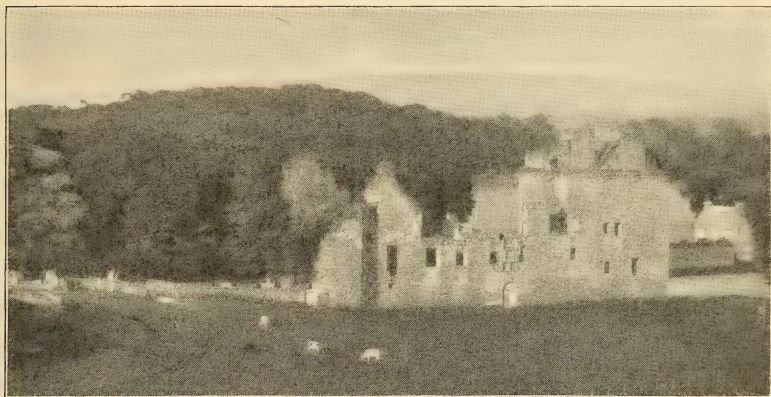
Christianity is said to have been introduced into these parts in the ninth century and it was gradually well supplied with religious houses. There are many churches remaining, but few ruins. The religious persecution that disgraced other parts of the lowlands did not disturb the Mearns. The people were tolerant with each other in religious matters, and there was no disposition displayed to throw stones at those who differed in faith or in forms.

The leading characteristics of the people were sturdy independence and active industry. Savage instincts were by no means obliterated and their habit of defending themselves from the inroads of Highland caterins taught them to defend themselves against the injustice of domestic tyrants. A story is told about a despotic sheriff who ruled high and low with a tyrant hand that knew no law. Complaints about him had been repeatedly carried to the king, who in a moment of impatience exclaimed, "Sorrow gin the sheriff wase sodden and supped in broo," which meant I wish he was made into broth and the broth supped.

The complainants had got what they wanted. They arranged for a great hunting party and had a huge caldron constructed. The sheriff was invited here to a feast and the scene that ensued was not unlike the incident described in the Bab Ballads:

“And he stirred it round and round and round  
And he sniffed at the foaming froth;  
When I ups with his heels, and smother his squeals  
In the scum of the foaming broth.”

The Stuart king of that time had little sense of a joke and did not like snap judgment being taken of a hasty expression, so he



EDZEL—AN ANCIENT CASTLE PASSED EN ROUTE

diminished the population of the Mearns by cutting off the heads of all the men engaged in cooking the sheriff.

That is all I shall venture to inflict upon the readers of the *AUTOMOBILE MAGAZINE* about the Braes of Mearns in this number. Will inflict a little more in next issue.

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### Ahead of His Time

“I have been thinking,” observed Brutus, “what a fine speedway for automobile scorching this Appian Way would make.”

“But you seem to forget,” sneeringly replied Cassius, “that automobiles haven’t been invented yet.”

That was too true. Brutus was in advance of his time, and, drawing his toga about him, the noblest Roman of them all relapsed into his customary pessimistic brooding on Cæsar’s political ambitions.



# British Reliability Trials

By A. F. SINCLAIR



THE principal event of the A. C. G. B. & I. annual program began on September 1, and at the time of writing, early in October, it is still in progress.

Beginning on Monday, September 1, the trials of cars continued during the week, but, although it had been intended to finish the test of tires on September 25, after they had covered 3,000 miles in four weeks, the condition of two sets, Dunlop and Collier, were so equal at the finish of that distance, that it was decided to run another 1,000 miles.

The contest, as a whole, has been exceedingly successful and has demonstrated clearly

ly the great advance in reliability, both in cars and tires, made during a brief twelve months. It is true that while in the Glasgow trials last year four cars succeeded in securing full marks for the whole five days, while on this occasion only one obtained the entire 1,800 marks for the six days; but this is accounted for by more stringent conditions of observation, and by the fact that on this occasion marks were deducted for stoppages from tire trouble.

The Crystal Palace, Sydenham, in the County of Surrey, is the building in which the first exhibition was held in 1851, when it was located in Hyde Park, London. It is about ten miles from London Bridge station, and is the scene of many social, musical, athletic and sporting meetings every year. The accommodation, both in the building and grounds, is extensive and beetling with conveniences. No more suitable place could have been found, then, than this for starting from and storage, and as the country to the south presents a variety of surface, with a few



sufficiently steep hills, the run was, on the whole, a highly desirable one.

On each of the six days, beginning with September 1, the cars left the Palace in the morning and returned, if able, before night. The first day's run to Folkestone and back, covered 139½ miles; Tuesday, Eastbourne and back, 120 miles; Wednesday, Worthing and back, 120 miles; Thursday, Brighton and back, 87½ miles; Friday, Tonbridge was the furthest point, but the route was of a circular form, and included hill-climbing, distance, 61½ miles; Saturday, Bexhill-on-Sea and back, 121½ miles; total distance, 650 miles. As has been already suggested, the country is undulating topographically, and in some cases the test was of the severest. On Friday, for instance, in proceeding along a lane, with a number of cars in close order, "the bottom seemed to drop out of the road," as one writer put it, and the drivers found themselves compelled, without the slightest warning, to negotiate a down-grade of about 17 per cent. That they got down all right is valuable evidence of sufficient brake power.

But to start at the beginning, usually a wise proceeding, the cars had to be in the custody of the club at the Crystal Palace at noon, August 29, under a penalty of disqualification, and this rule (except in the case of a single car whose owner was able to prove that he had been at the wrong gate in good time and was refused admittance) was rigidly adhered to. Cars which reached the gate a minute or two after noon were disqualified, and it is not altogether creditable to the sportsmanlike feeling of some of the competitors that, although they had been emphatically warned of the consequences, they resented them like children.

From noon till late on Friday evening was occupied by the judges weighing the vehicles, sealing tires, and in work of examination. On Saturday the cars were subjected to an up and down brake test on a 14 per cent. grade in the Palace grounds, a test which discovered some weaknesses, but on the whole the result was highly satisfactory.

On Sunday the examination work of the judges was concluded, and early on Monday morning in the midst of a "Scotch mist," a kind of drizzle, more soaking than a downpour, the business portion of the contest was got under way.

In all 92 cars were entered, of which 88 were classified, but only 61 started. In addition, however, there were 12 cars carrying various makes of tires entered, of which two did not start. The

starters were then 71 in all, the 61 in the car competition being divided into classes according to price, as follows: Class A (cars or cycles), selling price, not exceeding £150; Class B (cars only hereafter), price, not exceeding £200; Class C, price, not exceeding £300; Class D, price, not exceeding £400; Class E, price, not exceeding £500; Class F, price, not exceeding £600; Class G, price, not exceeding £700; Class H, price, not exceeding £800; Class J, price, not exceeding £1,000; Class K, price, not exceeding £1,200; Class L, price, exceeding £1,200.

The trials being for touring cars only, each had to carry its full complement of passengers, who had to weigh on an average 147 pounds each, that weight being made up, if necessary, by ballast, which could be neither tools nor accessories. No flimsy makeshift seats were permitted, every portion of the vehicle requiring to be in the condition in which it would be when delivered to a customer.

The observers were the nominees of other makers, that is to say, every competitor was required, under the risk of disqualification, to nominate an observer for each car entered, such observer to change cars each day, but on no day to act on cars entered by their nominators. This plan was found to work well, in that it secured the most exact observation of the cars, and as the regulations provided for an appeal to the judges against any deduction recorded against a car, should the driver consider such deduction unjust or excessive, it operated with perfect fairness.

The first day's run to Folkestone, although long and trying, only succeeded in demonstrating radical weakness in two cars.

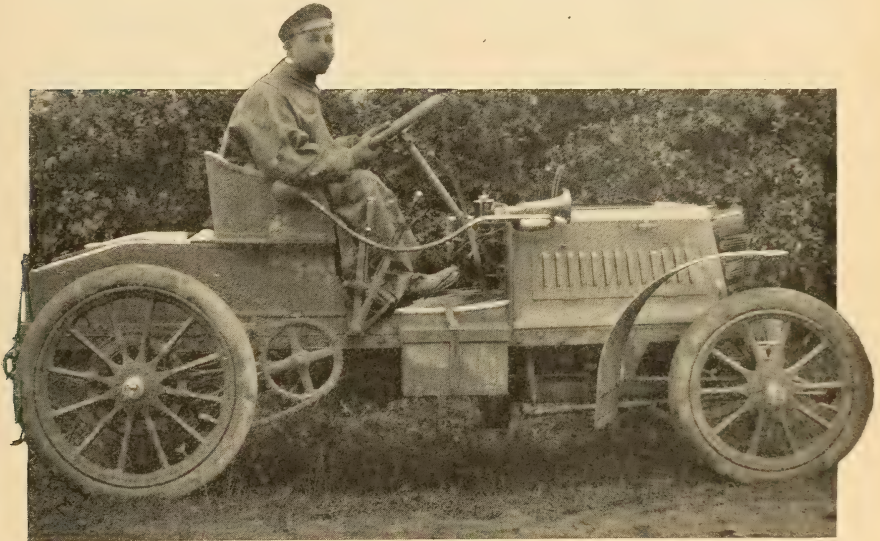
Of the 59 which finished, 21 succeeded in obtaining the maximum of 300 marks, while many of the deductions from other totals were from extremely trifling causes, a stoppage of the motor for 10 seconds in one case, for instance, causing the deduction of a minute, or one mark. Only five stoppages for tire trouble took place, and here it may be mentioned that throughout the week only 25 stoppages from this cause occurred, and as this is equal to one stoppage in two weeks for each car, it is evident that the claim of vast improvement in pneumatic tires is justified.

Tuesday's run to Eastbourne, 120 miles, was, in some respects, more trying than the preceding, as it included the well-known Westerham hill, an elevation favored for hill-climbing contests by the British Automobile Club. Only 58 vehicles started, (6) a Werner motor cycle being the defaulter, and of these 54 finished.

About one-third of those finishing, 17, to be exact, secured the maximum, while from 25 others, the aggregate of deductions was 91 marks, or less than 4 marks each car on the average.

Wednesday's run to Worthing was, comparatively, an easy one, for although the distance, 120 miles, was the same as on Tuesday, the conditions were less arduous. Of the 54 cars that started, all finished, and 23 of them earned the maximum.

On Thursday, again 54 cars started for Brighton, and all returned, 36 of them receiving full marks. On this day the cars did their best day's work, for of the remaining 18 cars, 11 had



EARL OF SHREWSBURY AND TALBOT'S 16 H.-P. CLEMENT

deductions aggregating 49 marks, or  $4\frac{1}{2}$  marks each on the average.

Friday was devoted to hill-climbing and competition trials, the distance covered being but  $61\frac{1}{2}$  miles. Fifty-four cars started, but only 50 finished. Of the 50 that finished, 26 cars were successful in securing the full marks.

The Bexhill run on Saturday brought the contest to an end, so far as running was concerned. Of the 50 cars that started on this run of  $121\frac{1}{2}$  miles, all but one returned. Of the 49 cars that returned, 25 lost no marks, while 18 others had deductions of five marks each on the average.

The only car which obtained the full marks each day, aggre-

gating 1,800 marks for the entire six days, was a 20-H. P. Wolseley, the same make of car as won two gold medals at the Glasgow trials. Three cars lost only one mark, finishing with 1,799 of an aggregate. These were a 5-H. P. Peugeot, which lost a mark for ignition trouble on the first day; a 6-H. P., an American White steam car, which dropped a mark on Thursday for being a minute in excess of the two hours allowed in garage for cleaning and taking in fuel; and a 15-H. P. Panhard, which gave away a mark on Wednesday for changing over accumulators. It is not proposed to go further into causes of deductions, but the official table showed that none of the cars lost only two marks, two lost three marks, and three lost only five marks.

In addition to the marks awarded for (1) reliable running, five other qualifications were considered, namely (2) hill-climbing; (3) condition of car at conclusion of six days' running, maximum 500 marks; (4) steering, 250 marks; (5) brakes, 250 marks; (6) horse power and weight.

Glasgow, Oct. 4.

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### Where Peter Went With Horses

Copenhagen possesses a circular tower 100 feet in height, which was formerly used for astronomical purposes. Its top is only reached by ascending a spiral passage 12 feet broad which winds between the outer wall of the tower and an inner circular wall. From the base to the top it is entirely without steps and the gradient is seven inches per ell.

An automobile of five horse-power, and carrying three persons, ascended the tower recently, taking one minute for the journey, and afterward making the much more dangerous descent with equal success.

It is of interest to recall that the Czar Peter the Great, on visiting Copenhagen in 1716, made the same ascent and descent in a carriage drawn by four horses, which feat was really a very much more daring one than that of the automobile.

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### It Sometimes Happens That Way

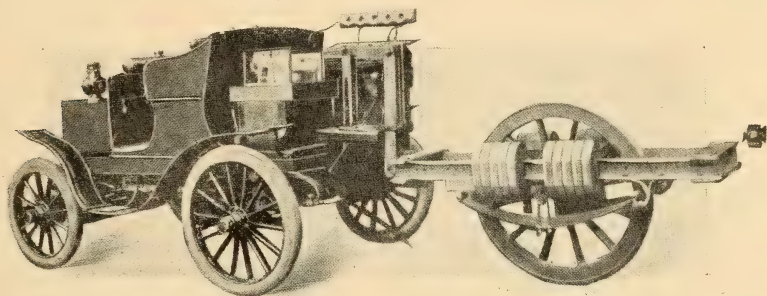
"Did you go for a ride in that new steamer of yours yet?"

"Well, it was a ride when I started, but it turned into a walk long before I got to the repairer's."



## Measuring Road Traction

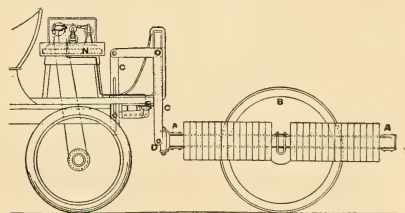
**P**ASSED never to return again is the day of guesswork (in the proper designing and constructing of a motor vehicle). To-day what a vehicle can and must do are not things to be roughly and inaccurately estimated, but things which must be determined with mathematical exactness. No better illustration



of this can be found than the recent paper on "The Resistance of Road Vehicles to Traction," read by Professor S. H. Hele-Shaw, F.R.S., before the British Association.

In the securing of the data upon which to base his address Professor Hele-Shaw made use of the automobile here shown, equipped with a very ingenious combination dynamometer and recording instruments.

Briefly the apparatus comprises a caster frame, AA, in which can be mounted, either with or without springs, a series of wheels varying in size from 18 inches up to 5 feet in diameter. This frame can be loaded by steps of 56 pounds up to about a total weight of one ton. The frame containing the wheel, B, is attached to a motor car or any other form of tractor by a system of levers, CC, so arranged that any desired angle of draught can be obtained for every size of wheel. A universal joint, D, is inserted between the frame and the car, so that the frame is free to move in two directions, i e., it can vibrate vertically, as over rough ground, and it can follow the car freely round a curve without in any way affecting the records. The tractive force required to draw this experimental wheel is transmitted through the system of levers to a



small ram, E (2.6 inches in diameter), which presses upon a rubber diaphragm inclosing a space filled with water or other liquid. As the tractive force varies so does the pressure exerted by the levers on the ram, and consequently on the inclosed liquid. This varying pressure is registered by a recording pressure gauge of the Bourdon tube type, and since the drum of this instrument is rotated in accordance with the movement of the car, the resulting graph shows the tractive force at all points of the route.

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## Story of Number 134

BY NED WILLSON

(Begun in September issue.)

**I**F you looked over the map of the State of Ohio and tried to find the town of Cinderella it might tire your eyes before you succeeded. Perhaps that is not just the right name of the town in question, but anyway, it will answer the purpose of this story. There is a little wooden depot on one side of the railroad track with the name of the town in great letters, flanked on either side with the distances to the nearest city of importance, ornamenting a long white board over the door. At least the board was originally white, but now of a dirty, grayish hue. Across the track from the depot a small red building surrounded with a platform about three feet from the ground constitutes the freight depot. In the offing are numbers of oil derricks, with here and there a little shed from which comes the labored puffing of a gas engine. Extending outward from these sheds like the legs of a "Daddy-Long-Legs," and swaying back and forth are the shackle rods by which from one engine a great many wells were pumped at once. It is the midst of the oil field.

Walking up and down the depot platform one morning were two men, one clad in uniform which denoted him to be the station agent, and the other, a tall, spare man in a leather coat and an automobile cap. The latter was gesticulating fiercely, and every little while waving a small yellow paper with his left hand and then slapping it viciously with his right. An inspection of the paper would have shown it to be a bill of lading of the P. D. Q. R. R., with its usual heading in small print, and an inscription in blue pencil denoting that "one automobile, weight 4,000," had been consigned to Mr. Cyrus P. Johnson, of Cinderella, Ohio.

"I tell you, Bradley, that blamed machine ought to have been here long ago. Just think, it was shipped a week ago to-day and a

tracer sent after it three days ago, and nobody seems to know where it is."

"Do you know the number of the car?" the station agent asked.

"No, sir; I don't know what car it was on because I didn't ship it."

"I can't imagine what could have happened unless she got in that wreck down the line the other day. Gosh! that was the prettiest wreck you ever saw. The engine and two cars just got across the creek when the trestle went down and seventeen cars piled up in the bottom of a ravine fifty feet deep. Nobody was hurt 'cause the caboose stayed up, but I tell you, there was a nice mess of kindlin' wood and old iron when they come to haul the cars up. Part of the wreck caught fire, and——"

"Oh, cuss your old wreck," answered Mr. Johnson, nervously. "I wish the whole blamed road would run off the track. I don't believe it's no good, nohow."

"Well, I guess that's where your machine went to."

"Aw, I don't believe it; I believe she's sidetracked somewhere."

Just then an engine whistled for a crossing about a mile away, and the agent remarked, "Well, there's the local now. If they haven't got your machine on we can send another tracer and I'll ask the agent nearest to the wreck if he knew of an automobile being found in any of the cars. Hullo, he's just sending through a list of the damaged goods now," and with a sign to his companion to be quiet he muttered over mechanically the purported message. "Huh! One automobile consigned to—hello, somebody's cut in." Mr. Johnson turned red and white by turns, and then asked pettishly, "Well, man, hurry up. Who was she consigned to? Is it mine?"

"I said somebody cut in. Didn't get the rest of it. Well, so long, I must tend to the local now; maybe it wasn't your machine after all."

Scarce able to curb his impatience, the man in the auto suit paced back and forth, watching the trainmen as they cut out three cars and pushed them on to the siding back of the freight depot. "Well, did you get her, Bradley?" he asked of the agent, as he was unsealing the last car.

"Don't know yet. Here's a whole lot of sucker rods, a couple of mowers; this car here is loaded with household goods, and—say, what's that funny lookin' wagon in there with the wheels all tied around with fire-hose?"

"Oh, you blame fool, that's an automobile, that's my machine.

That's number 134. There she is. Didn't you ever see an automobile before? You're the blamedest fool I ever see."

"Ain't no more fool than you be. You're so excited you don't know your head from your heels. Well, I guess you want to get her out right away. Go over to the depot and get the hatchet while I get these crates out the way."

It was short work to unload a few crates of furniture piled in front of the machine, and to knock away the blocking that held the vehicle in place, and without more adieu the machine was rolled out of the car and down to the ground. "There she be, Bradley. Ain't she a dandy?"

"Pretty good looking carriage, I should say. Let's see you start her up."

"Guess I'll kind o' look her over first. Say, just keep your eye on her a minute till I go over here to Peterson's and get some gasolene." Bradley stood guard nothing loath, poked his fingers into the cushions, tried to peek through the hood and to look through casing of the transmission gear, got his fingers covered with grease feeling of the chain, and satisfied his curiosity as best he could without pulling anything apart. By the time its owner returned, the machine was the center of a crowd of at least twenty-five men and boys who had collected like buzzards around a newly found carcass. Bradley, faithful to his trust, had specified "no monkeying," and all stood at a respectful distance. As Mr. Johnson approached there arose a chorus as if from one voice, "Say, Cy, give me a ride, will ye? Gosh, she's a beaut, ain't she?"

"Say, what do you fellows think I'm running, an ambulance?"

"Naw, we ain't no cripples."

"Well, you will be if you don't keep out of my way, as this here machine runs forty miles an hour." A long-drawn whistle was the only response. Raising up the seat to fill the gasolene tank he found fastened to the screw top of the tank a piece of paper with the inscription, "Don't forget your water." "Sure enough, I pretty near forgot that," he muttered to himself. "Here, Billy, get me a pail of water," to a freckle-faced youngster standing by.

"Gimme a ride?"

"Yes, if you will get me some water and hurry up." While waiting for the water and with his instruction book in one hand he went carefully about making his adjustments, oiling up, etc., and then essayed to start the engine. Turning on the gasolene and the igniter switch, he gave the crank three or four turns and secured an ex-



plosion which carried the engine through seven or eight revolutions when it got another explosion. This gave it impetus enough for another dozen revolutions which were followed by another explosion. But the third explosion was the last and the engine stopped. Another attempt brought a similar result, which was not bettered by repeated trials. Although the spring day was raw and cold, the exercise, coupled with the sympathies of the crowd, soon made the oil man look like he had been through the sweat-room of a Turkish bath. Try as he would he could obtain no better result, and on the pretense of going home after a screwdriver he had a good look at his instruction book and finally found this paragraph: "If your engine runs with infrequent explosions either the mixture is not right or it is throttled too much. First try opening your throttle a little further and then adjusting the mixture." Back to the machine he marched proudly with the screwdriver in his hand in order to make good his bluff, but when he arrived his spirits fell, for he had forgotten which was the throttle. He had to do something, however, so he made a pretense of tightening up a screw here and loosening one there while tracing up the various levers in order to find which was which. Following two rods, each of similar design, he found that they led to a couple of small handles on the steering-post. A glance at the illustration on the instruction sheet showed him that one was the throttle and the other the spark advancer, but which was which he really couldn't tell. "Guess I'll pull 'em both," he said to himself; "then I'll surely get the right one."

Determined not to be balked again he gave the starting crank a quick turn, when it started backwards with a jerk, taking him off his feet and throwing him about two yards from the machine. He sat down so hard that the air was filled with jump-sparks. Three or four of the bystanders went to his assistance, but he recovered without any help, and, after nursing his "funny bone" for a moment, he came to the conclusion that he had done something wrong and consulted the instruction book once more. At last he discovered that when the engine started backward the igniter had too much lead and the spark advancer must be thrown forward in the direction the engine turned. One of the oil-pumpers from his lease, who was standing by, just then suggested that he allow him to start the engine and at the same time volunteered what he had already discovered, that "She was igniting too soon." Mr. Johnson consenting, the experienced gas engine runner soon found the spark advancer and pushed it forward as far as it would go. Finding that the

engine cranked rather hard he looked for and discovered the relief cock, and, opening it, gave the crank two vigorous turns when the engine started off as if it had never known what it was to balk. Then closing the relief cock and advancing the spark he stepped back, and Mr. Johnson, replacing the hood, took his position proudly at the steering wheel.

With his eyes to the front like a soldier on dress parade he threw in the low gear and applied the clutch gradually, suppressing his nervousness with gritted teeth. It was fortunate that the steering wheel was made of sound material else it would have been crushed by the terrific grip with which he held it. Guiding the machine with a determination due as much as anything to the fear of ridicule, he started down the road without running into any of the yawning chasms in the faces of the admiring crowd. Choosing an unfrequented road he made a run of four or five miles, and managed by dint of hard labor at the wheel to keep the machine out of the ditches on either side. His track was anything but straight, but for a novice he did fairly well, and, beyond crushing the life out of a stray hen, he caused no accident. Turning about he reached home safely, guiding his machine into the barnyard and barely missing the gate, ran into the barn, intending to leave it there while he could study his instruction book and look the machine over undisturbed.

It is said that fate favors the drunkard and the feeble minded, and she surely must be kind also to the ignorant, for it must have been fate and fate only that saved his machine from a wreck. The door on the opposite side of the barn from where he entered was about six feet from the ground and was wide open. In attempting to stop he threw out the clutch but forgot to use the brake, and the machine was fast approaching the open doorway. The hub of the front wheel striking a post upset a pile of baled hay, which fell in front of the vehicle and wedged itself across the open door. This acted as an effectual stop at the expense of the radiator, which was quite badly twisted out of shape. The owner was so frightened that it was some ten minutes before he could think to stop the engine. The accident caused him to sit down and give some serious thought to the question of learning how to operate the machine by himself. His narrow escape gave him a better conception of the difficulties in hand, and that night when writing for a new radiator he added a request for an expert instructor to stay with him a few days until he could get the machine well in hand.

## A Tale of "Whoa"

### MORNING

Goodby, old horse, we'll turn you out  
To roam o'er hill and plain;  
We've bought a brand new steamer and  
We'll ne'er need you again.  
With boiler, steam and gasoline  
We'll ride from morn till dark,  
And on each pleasant afternoon  
Go whizzing through the park.  
You're hardly worth a piece of pie!  
Goodby, old horse, goodbye!

### EVENING

Come here, old horse, we need your pull  
To get us home to-night.  
This machinery, complex, puffing thing  
Is not perfected—quite.  
Ten miles from home it fussed and fumed  
And then refused to go;  
And minus both a push and pull  
It was a case of whoa!  
If you'll return, so will our joy.  
Good boy, old horse, good boy!



# Concerning the Induction Coil

BY REGINALD WALES

**T**HE relation of the induction coil to the motor is an extremely delicate one and should have the earnest consideration of every gasoline motor owner. That these two factors be ever in harmony, that they always be positive, is imperative to the well-regulated vehicle. Perhaps the motor itself cannot be classed or considered antagonistic, but rather should be regarded as being continually subservient to certain ignition conditions brought to bear upon its centers. These are always manifest and cannot be mistaken, so embarrassment should never be experienced in their detection.

The batteries may be in a perfect and normal condition and yet there is a motoric failure, due, let us say, to encrusted sparking points. Then again, the series may be the negative quality while all other component parts are in a faultless state. But, to take still another illustration, assume, for instance, a condition where collectively the cells, the transmission wires, the switch and the sparking points admit of no question as to their integrity, but are, on the contrary, working nicely upon a basis of co-operation; in short, all factors entering into and comprising the ignition centers are in a faultless condition with the exception of the induction coil, yet as a result of this one deviation what is the result? Obviously the vehicle will be rendered useless. Why it will be rendered so I trust will be explained in the following brief discussion of the uncertainties of the induction coil and the evils attending its depreciation.

The construction of the induction coil is not particularly complicated, consisting primarily as it does of a thick wire of few windings so as to offer but small resistance and a small co-efficient of self-induction. The secondary coil surrounding the primary is of a thin wire, its length varying according to the size of the completed coil. In order to avoid the danger of a disruptive discharge between the parts of the insulated wire, the coil is divided by an insulating septa so that parts of very different potentials are separated. In the center of the primary is placed a bundle of iron wires; this greatly strengthens the electrical action, and a great deal depends upon the quality of the iron, which should by all means be soft.

An alternating vibratory or purely alternating current through either one of the wires induces a flow of electricity in the other, provided, however, its ends are joined in or through some conducting substance. Therefore, in the passing of the energy through a wire



of large diameter a strong potential, comparatively speaking, is obtained at the fine winding. It is this which causes the production of a large and uniformly thick spark.

While the coil necessarily brings much influence to bear upon the spark's volume, yet the batteries must not be overlooked as being directly influential. Satisfied that these are of the proper type and so constituted as to make possible their surviving protracted and exacting periods of service, and that their present condition permits of no doubt as to their normal propagating qualities, then all attention should unhesitatingly be centered upon the induction coil.

The requirements of the coil are that it must first be of proper and suitable size for the particular motor which it is identified with, and, second, its composition must be such as to offer a resistance to the product from the batteries, making it quite impossible for the entire quantity generated by the series to pass through its medium. If there is a failure to maintain this latter condition, then the cells are always subjected to a debilitating drain because of the maximum amount of energy which they are thus called upon to produce.

For example. The series being capable of producing a certain number of amperes, maximum, say two, then a mathematically exact induction coil should not permit this quantity to pass interruptedly through its windings, but should, on the contrary, resist or turn back a portion of it. Of the two amperes generated by the batteries, not more than one-half should by the coil be allowed to pass through and on down to the ignition centers. If this ratio is maintained, then no inequality can be possible in so far as premature exhaustion of the batteries is concerned, since premature exhaustion is caused and brought about just through such an agency as this. It is this very factor that is responsible for so much depreciation of the generative series since when the coil loses its resistive powers, and the entire product of the batteries is allowed to stream into and pass unrestrained through its windings, then, because they are working at a high tension—due to this inequality—and a maximum limit, the life of the batteries is rapidly shortened and their integrity utterly ruined.

Why is it that the induction coil undergoes this assured disintegration? To this question I shall venture no positive reply, for the phenomena is identified with numerous inexplicable things, all of which enter into and form an extremely complex subject. But that a coil is subject to such depreciation has been proven beyond a doubt, and no motorist who has had only a limited experience along this line will question it for a moment.

It is necessarily, then, a matter of considerable importance that much care should be exercised in the selection of the induction coil. It must embrace within its composition only such material as has an acknowledged standard of excellence, and the assembling thereof should be another matter not to be lightly passed by. The marvelous growth of the automobile industry and the enormous demand for motors and all accessories appertaining thereto have induced rapid manufacture, and in many instances the product which might otherwise have proven itself meritorious has been utterly ruined by nothing more or less than careless assembling.

Coil depreciation is shown directly in the motor's working qualities. The vehicle may be taken out and given a run of twenty miles. The first half of this is perhaps covered with no inconvenience, but later on the engine begins to operate badly and then it is but a question of time before there is a total cessation of its motion. The initial half of the run was traversed without embarrassment because during the period of disuse the series had been given sufficient time to recuperate, but upon the subsequent period of activity the coil allows the entire product of the batteries' generation to pass through its winding, which in turn calls for their maximum effort: this weakens them with the result that the machine is soon badly embarrassed.

To my knowledge in more than one instance well-known vehicles have been allowed to leave the factory with an induction coil in such a deteriorated condition that anyone should have noticed it. At any rate, there was nothing but one continual exhaustion to the series manifested by an unsatisfactory working motor and frequent roadside delays. In one case the purchaser of a carriage recharged the entire series on an average of about once in every four weeks, notwithstanding that during this time perhaps the vehicle would not have been run over a few hundred miles. For the first week after the batteries had been recharged things ran fairly well, but at the beginning of the second week the old inequality, which began with a jerky engine, put in an appearance with diminished speed and now and then a total stop as the very natural results.

As days went by these conditions became more and more aggravated until finally motoring was rendered a painful pastime. When the machine finally refused to run at all he would recharge the series of eight and this sufficed to once more help matters along for a time. But this chauffeur was inexperienced and so he thought all this sort of thing was included in the general makeup of automobiling, but while tolerant at first he finally grew disgusted and

threatened to abandon the sport. He was advised as a last resort to change his induction coil, which he did, feeling certain, however, that in so doing there was little likelihood of any improvement resulting. But even so, he followed the advice and the result of the change in coils was instantaneous and marvelous as well.

The batteries which before had been worthless after a few hundred miles had been run, with the new coil developed energy sufficient to last for two or three thousand miles. The explanation of this is all simple enough. Under the proper resistive measures, the batteries were called upon to furnish but a small ratio of the power they were capable of supplying, and so the owner, instead of contending with a continuous premature exhaustion, was by means of a proper coil permitted to enjoy all the joys of motoring without the annoying experience of being stalled every few miles.

You can do worse things than pay strict attention to the existing condition of your induction coil if you wish to make the use of an automobile the pleasurable thing which it should be.

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### A Line of Thought

He was an auto noter,  
 With a bargain-priced motor,  
 Who in trouble twenty miles from home was caught;  
 He made no vocal sign,  
 But this Mergenthaler line—  
 Bbbmj xhdsktm wnxdmMwb!! z6sDMujvx—  
 Expresses very simply what he thought.



## Present Status of Touring Information

**A**DMITTING at the outset that no complete or comprehensive system of information suited to the use of automobile tourists is yet anywhere available, we not only respect the truth of the matter, but are enabled to read between the lines of that which is being widely offered as such. The call for this sort of service grew from practically nothing to a wide range of inquiry, as it were, in a night; and nowhere had any adequate preparation been made for it. Outlining and mapping good through routes waited, as is usual in such cases, upon the demand asserting itself and meeting the considerable expense of the work. Thus it was that when the inquiries began to come in to the representative papers devoted to the sport and trade, they met, not that prompt and accurate response which only years of careful observation and record could make possible and creditable; but either evasion or the worst kind of guesswork "information."

Up to the opening of the 1902 season, a call for an automobile route addressed to any one of these publications was answered, if at all, by reference either to the geological survey charts or to the old cycle routes and maps. The latter usually—a ready means when it is remembered that what there was left of cycle journalism clothed itself in automobile forms and became a numerical majority in the new dispensation. The old libraries and reference works were handed down as a matter of course, for no later substitutes were to be had; and out-of-date works remained better than nothing, so many thought.

This led to some curious revelations, as, for instance, where one "authority" scheduled a party of gentlemen operating the heaviest cars from New York to Long Branch by way of Staten Island and the railroad trestle over the Raritan river from Perth Amboy to South Amboy, N. J. Cyclists would always take train over this otherwise impassable barrier—soon, however, to be spanned by a fine new road bridge; but a motor vehicle must still go 24 miles to get across. In the hit-and-miss of the same "system," a hand ferry is (apparently) no more of an obstacle than a railroad trestle, and its directions read accordingly. To the degree that this sort of misinformation has been taken at its own valuation by the unsuspecting has the whole scheme suffered in public estimation. But as the service is advanced along rational and proper lines, it will find a large and sure place in automobilism, contributing very materially to the touring end; and the false prophets will seek other fields.

The interest in the outdoor sport due to the increased output



of road models, and the impetus given to the whole movement by the shows of last winter, multiplied the former demand for touring routes. Trips were likewise made in various sections and the notes of the same contributed to the automobile and other papers. These notes, with careful references, helped to fill the gap, but a central plan and continuity of purpose were lacking.

Beginning with its May number, the *AUTOMOBILE MAGAZINE* published the first of a series of road descriptions and illustrations, carried to and through October without a break. These tours have been severally and collectively the result of careful personal investigation of every road mile concerned in the work. They were the first in this country to be put out on such lines, and likewise the beginning of a plan to take up each well-defined and important section with the idea of tracing its principal through routes in the same way. That work is necessarily over for this season, with the following list of routes available through purchase of the copies containing same at the regular price of 25 cents each, and the wise man buys them now before they are gone:

New York-Albany.....	May.
New York-New Haven.....	June.
New Haven-Springfield-Boston.....	July.
Boston-Providence-New Haven.....	August.
Chicago-Milwaukee .....	September.
New York-Philadelphia.....	October.

It will be possible at the beginning of next season to start again, not at the initial point, but where this year's work leaves off. Other tours are already prepared, notably (1) the Connecticut River Valley line from New York to Brattleboro, Vt., and (2) from Albany and Troy to and across the Green Mountains; and these would have been published before now except that the relatively more important ones were given the right of way. Meanwhile our correspondence and information department, both separately and in co-operation with our outdoor service, by prosecuting its work far beyond the possibilities of early publication, has been enabled to answer inquiries in a still larger territory.

This work is, however, one of years rather than of months; and the problem the automobile tourist meets in other sections is how to make his particular trip in advance of its investigation by competent authority. He must simply go ahead and find out for himself; and if he will communicate the general results of his observations to us, it will be used in the interim for the information of others. One

thing we have no use for at all, and that is made-over bicycle material; it is usually worse than useless.

As for published road maps, about which many inquiries have been received during the season, there is no general and reliable series anywhere to be had. Those offered by Geo. H. Walker & Co., Harcourt street, Boston, Mass., are quite serviceable for Boston and its suburban riding district; also for eastern New England. Rand, McNally & Company, Chicago, publish the best road maps of the middle West. Most of the other publications in this line are guess-work, with the U. S. geological surveys as the sole working foundation. The principal trouble with these is that a person making a special through trip must seek his way from out a mass of maps for which he has no use. Nevertheless, the maps are valuable as giving one the general layout and topography of the country. The automobilist who desires to get a fair list of such maps as are to be had at the present time, with a careful selection from the entire field of them, might find it worth while to send for the catalogue of pocket road maps recently issued by Brentano's, Union Square, New York. Use the maps as a general introduction to your subject and work out the details in your own way, always allowing a generous margin not only for original error, but also for changes since their publication.

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## Too Much for Earthly Ability

**H**E was a portly person whose appearance and speech plainly showed him to be one of those individuals who think the world was made for them and the inhabitants thereof intended solely to wait upon them. Adjusting his gold eye-glasses with due deliberation he beamed through them at the salesman and said:

"I want an automobile which will not require any study on my part to know how to run and care for it, one which any person can run just the same as they drive a carriage. I shall not pay more than \$300 for the vehicle, and it must be one which will not get out of order or be in the repair shop when I want to use it. Have you anything of the kind you could show me?"

"No, sir," said the salesman. "I believe you can get just the kind of vehicle you want only in one place."

"Where is that, sir?"

"Heaven."

## The President of the A. C. A.

**T**HERE are those intensely argumentative ones who question the wisdom of leaving well enough alone by asserting that to do so is to apply the brake of satisfaction to the wheel of progress.

Granting that it may not always be advisable to be content with well enough, even the most carping critic cannot gainsay the advisability of leaving very well very much alone.

The Automobile Club of America is not without those who believe that nothing is so good that better cannot be found; in fact, the club would not be worthy of the name "of America" were this feeling entirely absent; but change does not necessarily mean betterment, and it is a lack of appreciation of this which has caused some of those who, while meaning all for the best, are in their enthusiasm demanding that a new hand be placed in charge of the Automobile Club's executive force.



The gentleman whose picture appears herewith, Mr. Albert R. Shattuck, needs no introduction to the readers of THE AUTOMOBILE MAGAZINE. From the beginning of practical automobiling in this country Mr. Shattuck has been ever to the fore, giving generously of his time, his talents and his purse to the one end: that the sport might thrive and prosper.

That Mr. Shattuck's efforts in this direction have resulted in the placing of automobilism upon a firm and lasting foundation no one will question. That he has been assisted in doing this by his

friends and fellow clubmen is equally true, and no more convincing indorsement of Mr. Shattuck and his labors could be had than this very same assistance and co-operation on the part of those associated with him.

The danger of swapping mounts when crossing a stream has been clearly set forth by that foremost of Americans, Abraham Lincoln; that the danger of such changes is not lessened when the mount is a mechanical, not an equine, one needs no comment.

Mr. Shattuck has proven his worth; he has made of the Automobile Club of America an organization known the world over as one which accomplishes things; he has successfully combatted the efforts of the vote-chaser to drive the automobile from public highways; he has planned and carried out satisfactorily shows, tours, banquets, club nights, lectures, endurance and reliability runs, and in many other ways has proven himself to be the right man in the right place.

The Automobile Club of America is, therefore, to be congratulated upon Mr. Shattuck having been induced to reconsider his determination not to again accept its presidency. In re-electing Mr. Shattuck to the office he has so ably filled the club, while retaining at its head a man who has proven his loyalty to the best interests of the organization, will at the same time put a deserved quietus upon any introduction into its affairs of the entirely too prevalent Americanism of making a change for only a change's sake.

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## Automobiles as Insurance "Hazards"

BY DIXIE HINES

**T**HE great consideration given to what is known as the "automobile hazard" by the accident insurance companies at present may be taken as evidence of the popular growth of the newest method of locomotion. For, when such companies compile statistics to establish an experience table for this novel hazard, it must be that the automobile has become an important factor in daily life.

The consideration of this "hazard," as it affects personal accident insurance, is a complex one. It will be understood very readily that every element of danger must be considered in estimating the probable loss, and each element must be regarded in its possibilities or actualities, or in both. Hence it is that the new becomes novel in its relation to existing things and affects a whole people accordingly as it comes into general use. It must be understood that the



companies are insuring not only the owners and users of machines against personal injury, but the users of the streets and roads of the country as well; and the task of fairly computing the cost of this added hazard is one that for the time keeps the actuaries constantly employed.

Personal accident records afford unlimited material for those who love to delve in statistics. The accident insurance companies, perhaps, have a more complete set of general statistics relating to their business than any other companies in the world. This is because, in addition to the regular sources from which they derive their information, they are ably aided and assisted by the States and the Federal Government and by the street railways and general railroad and transportation companies throughout the country. The Census Office reports, in its last statement, that the percentage of accidental deaths to ratio of population in the United States is rapidly increasing, offering, in substantiation, these figures.

During the twelve months preceding their last report, 57,513 accidental deaths were reported in the United States, the percentage of such deaths in 1,000 reported being 57.6. The corresponding proportion for the previous year was 53.7. The most alarming statistics, however, show the total number of accidents reported as over 11,000,000 each year, or 15,000 accidents annually to every 100,000 of population. The records kept by the accident insurance companies indicate that about 30,000 non-fatal accidents occur every day from ordinary causes.

It appears that nearly 6 per cent. of all the deaths in the United States are due to accidental injuries, but it is even more astonishing to learn that the probability that one will meet with some disabling injury within a year is far greater than the chance of his death from any other cause during the same period.

When it is said that nearly 6 per cent. of all the deaths are due to accidental injuries, it is to be borne in mind that this result is attained by contrasting the 1,039,094 deaths from all causes reported during the census year with the 57,513 deaths from accidental causes during the same period. But for the country, as a whole, mortality statistics are more or less incomplete.

The most reliable data that the census gives us are from the so-called registration States (Connecticut, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Rhode Island, Vermont and the District of Columbia). In this area during the census year 27,649 persons lost their lives from accidental injuries,

a death rate of 96 per 100,000 of population. In 1890 the death rate from accidents in the same area was 91.9 per 100,000. Here again—from a different point of view—is seen evidence of a steady increase in the proportion of deaths from accidents.

How complete these records are kept, as showing with what care the adjustment of the cost of insurance is to the changed condition in social and commercial surroundings, these very interesting facts are adduced:

Fatal accidents (and presumably non-fatal also) are more liable to occur in cities than in rural parts. The proportions of death from accidents and injuries were greatest in the Cordilleran regions, the Pacific Coast region and the Western plains; they are least in the North Atlantic Coast region, the Middle Atlantic Coast region and the Northeastern hills and plateaus. The warmer months show a larger proportion of fatal accidents than the cooler months, due, primarily, to increased activities in all kinds of games and sports.

An inspection of the census table showing the causes of death brings out the fact that a person is more liable to meet death by accidental injuries than by any other single cause. A person is twice as liable to die from accident as from old age. Typhoid fever, cancer, apoplexy, inflammation of the brain and meningitis, paralysis, diphtheria, diseases of the stomach, liver and brain, all are slight menaces to life compared with accidental injuries. The accident microbe is deadly, and is increasingly active. The 11,000,000 accidental injuries every year are enough to "smash up" every man, woman and child in Greater New York somewhat oftener than three times a year.

These general remarks are made that the foundation upon which rates are based may be understood, and as a basis, to which must be added—if it be decided to increase the rate in consequence of the "automobile hazard"—such additional premium as the companies may determine from a study of the changed situation due to the introduction of the automobile as a business and pleasure vehicle. It is readily admitted by all that it has materially increased the liability of every company assuming responsibility under an accident policy. As these policies, in their general terms, provide, in the most liberal manner, for weekly indemnity for a given sum, in multiples of \$5, for a period ranging from 100 to 200 consecutive weeks for ordinary injuries, and an increased proportionate indemnity for loss of sight or limb or death, it will be seen that their

liability increases as the opportunities for accident or injury increases.

As a special provision, many of the companies, in seeking to increase the popularity of their policies, offer double and triple indemnity for death or injuries sustained while riding as a passenger in any form of public vehicle or elevator or while in a burning building. Some have added to this list of special features bicycle riding, tornadoes and cyclones, while one company, perhaps more for the effect it would have as an advertising feature than as an eventual source of profit, has included the "automobile hazard." These special conditions provide the double and triple benefits without additional cost.

The danger of the automobile is not so much to the driver and occupant as to the pedestrian or other road and street user. These persons, though not specifically, are legally included in the "automobile hazard," and it is this fact that makes the advent of the new conveyance of such importance to the actuaries of the companies, for they have yet to determine if this risk is to continue to be assumed without additional premium.

From a private report, tabulated from newspaper clippings representing the centers of operation throughout the United States, a six months record of automobile accidents is summarized as follows:

Fatal injuries sustained by occupants of automobiles.....	160
Fatal injuries sustained by others in consequence of automobiles .....	325
Non-fatal injuries suffered by occupants of automobiles.....	296
Non-fatal injuries sustained by others from automobiles.....	943

To put a commercial value upon these accidents, which is invariably the basis upon which "risks" are considered, would mean something like this:

Fatal injuries sustained, 485, which, assuming that each person was insured for the average amount of \$5,000, would mean a cost to the insurance companies of \$2,425,000; total number of persons injured in consequence of automobiles, 1,239, which estimating their injuries as such as would incapacitate them for four weeks each, for which the companies would be called upon to pay a weekly indemnity averaging \$25, an additional sum of \$123,900 would be charged, or a total for six months of \$366,400, or for the year, \$632,800, a sum that is not beyond possibility, though beyond probability, as this is assuming that every individual so injured was insured.

But it will thus be seen that should every person insure in an accident company, the automobile alone would have cost the insurance companies during one year over six hundred thousand dollars, and it is no wonder that the underwriters, looking upon the automobile with any but kindly eyes, support with alacrity every measure introduced by the clubs and conservative owners designed to properly safeguard the public and the owners themselves. Personal injuries are at all times painful to the injured one, and regrettable to the owner responsible for them, but that is not all, for unless the owner is protected by a liability policy, he may find his automobile more expensive to retain than was its cost in the first instance.

The accident insurance companies have, for many years, been noted for their liability. No situation arises that does not find them ready to meet it on liberal terms. So far they have accepted each additional increase of hazard without remonstrance. The bicycle as a means of pleasure and recreation added to their burden; so, too, football, baseball, polo, and each of the new sports marked by strenuousness and activity. Each has added its quota. The American is so constituted that he craves excitement and danger, and the new sport that does not carry with it an element of personal danger is immediately treated with indifference. Automobiling is perhaps the most serious of all the modern sports, only yachting and equestrianism standing in the same class. The tabulated reports of the companies show that nearly as much is paid on claims in consequence of sports and their allied interests as is paid on any other of the classes of claims most frequently arising.

While the companies can never legislate against the street user, who suffers most from automobile popularity, they can "prohibit" automobiles. This, however, is extremely unlikely, but all the more reason why the organizations having an interest in automobilism should combine and urge stringent regulations for the protection of the public. It is needed, and the interested parties should be the first to encourage such a proposal.





## As Seen by An Official Observer



**F**IRST of all a well-merited tribute to the season and the weather! October again proved itself the accepted month for the annual Endurance Contest, Reliability Run, or whatever other distinctive name the chief automobile road event of the year may hereafter be given. Then, if ever, the highways and byways are at their very best, affording good

riding conditions, and other circumstances are most likely to be favorable. Cool, crisp mornings and evenings merge with sunny, comfortable forenoons and afternoons so gradually you are unconscious of the change until it is complete. From hillsides and tree-tops the full glory of autumn shows and reflects from the fields and waters. One not overtaken by storm or mishap must needs be in pleasant mood.

Perhaps the most fortunate of all in the organization of a run of this kind is the Official Observer—a guest of the promoting club, sharing no actual responsibility with the contestant, and yet with enough of duty to make him an integral part of the whole. He is expected to do nothing more than carefully observe and faithfully record both incidents and results. Though altogether overlooked or else briefly tabulated in the official summaries, what he sees and hears, on such an occasion as the 500 miles' out-and-home of the Automobile Club of America to Boston and return, may have the interest and value of a separate and impartial viewpoint from start to finish of the run.

Apart from the vehicles participating in the event or attending it in some official capacity, a number of automobiles were joined to the procession of the regulars at various points en route. These were, of course, a law unto themselves throughout, though not always recognized as independents by onlookers. They would usually appear unheralded at some control, continue on for few or many miles as the case might be, and drop out as suddenly as they came.

The originally good turnout was thus added to at unexpected

times and places, and the extra machines in line, when they did not interfere with the progress of the run itself, brought a new and interesting element to it. Most of them belonged in cities and towns along the route, and when their owners came out to meet the competing column, it was usually for the purpose of rendering a courteous escort in-town and out again onto the next link in the journey. To watch the result was to gain a new conception of the spontaneous good fellowship which marks the predominant automobilism of to-day. The same spirit that was shown informally where no stops were allowed made possible the larger "special" occasions which went with the run. Among the latter were the complimentary luncheons at Hartford going and returning, the theater party and smoker at Springfield and the reception by the Boston Automobile Club at their fine new clubhouse on Boylston street on Saturday evening.

Local color as well as a touch of the picturesque was contributed by the same independent squadron. Nearly all who joined the run in this manner appeared in bright and clean machines, just from the garage, in striking contrast to the dust-covered and well-laden vehicles participating in the responsibilities of the day. The costumes of the operators were in equal contrast, and the ladies who were with some of the visiting parties were made welcome and as much at home as time and circumstances would permit. But at no time was pleasure allowed to interfere with the duty of the hour.

The final advantage of the independent column was the opportunity thus afforded to show up alongside some non-competing types. Most persistent among all the followers of the regular brigade was Mr. W. C. Russell, Chairman of the Runs Committee of the Hartford Automobile Club, who, with his daughter and Miss Corbin, of New Haven, were in and about the procession from New Haven to Boston and back to Hartford. Their Stanley Surrey was sent over the roads and bridges like a wasp, showing not only speed but also the ability to safely pass other vehicles with the narrowest margins of time and space. John Jacob Astor's Mercedes attracted some attention on the way to Norwalk the first forenoon, but it necessarily divided the honors with a great many extra vehicles. Mr. and Mrs. C. R. Mabley, of New York, caught up with the run at New Haven with a new American built C. G. V., which naturally interested the men who follow the new models professionally more than the people who simply looked on. Another non-competing machine in line for a time was the Ball Steam Car-

riage, in which Mr. Charles E. Ball and party met the returning crowd at Norwalk Wednesday afternoon, and came in at a fine, even pace just after the second brigade. A few other makes had likewise a partial showing, adding to the completeness of the event as a road exhibition of automobiles, beyond that which the official summaries will give.

The temptation to try out speed was present from start to finish, and the maximum 14-miles average must have been a sore trial to some of the more ambitious chauffeurs. But the way the stated even pace was kept reflected credit upon contestants and observers alike. If there were any violations of the letter or spirit of the "Reliability Run" they were not to be noticed in our six days in the line; nor would it be easy to credit any charge of collusion between operators and the representatives which the club had placed in each vehicle. Undue advantages were plainly impossible to be had; and the only point in the rules which elicited even a difference of opinion was as to the propriety of charging a machine with an accident or delay wholly due to some outward circumstance. It is doubtful if this matter has yet received the attention its importance deserves.

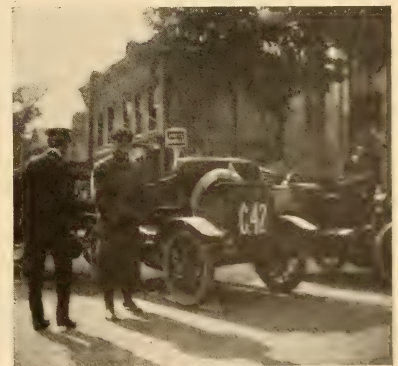
If any fault were to be found with the observers, it might truthfully be said that some of



LOOKING HIS BAGGAGE OVER



A CREDIT TO HIS TAILOR



PLEASED WITH THE PROSPECT



them were none too familiar with automobiles and the methods of figuring their times in an event of this kind. Some minor mistakes in the official records would trace to this source. But it is no easy matter to secure a quota of 75 men, in addition to the officials, starters, timers, checkers and the like. The contestants are usually the owners themselves, or else men taken from the trained staff of the makers or their representatives, with considerable numbers to draw upon in each case. But the promoting club had to go out into the open for its hundred or more men in all, and find that number who could and would serve.

The first sign of a "green" observer was his appearance at first of being ill at ease in the vehicle of which he was technically in charge for the club. Sometimes this would lead to advice and cautions to an expert operator; but all this passed away as the new formed acquaintance—and self-confidence—grew. The time and trouble taken to figure out arrivals, departures, stops and the like were noticeable, with more than one instance of being none-too-sure until another had been called on for his opinion.

This brings to mind one of the many sidelights of quiet humor which will come into an event of this kind. There was a bit of "loafing" in order to save arrival ahead of time at the New Haven control the first night. It was according to the instructions of the official observer, and he was right. Onlookers, unable to understand how anything else than near loss of power would lead to a snail's pace at the end of the day's run, began to make sport of the vehicle and its occupants. It bothered no one but the official observer himself, who evidently had little use for good-natured raillery. His only means of escape was to discover that he had figured more time than was necessary to gain control at the right time. But he was unable to alter the former result and settled back, as much as to say that the crowd might do its worst for all he cared. But he had already given himself away, and I dare say that no one enjoyed his honest discomfiture more than the experienced operator at his side.

As a matter of fact, the public refused absolutely to be convinced that the run wasn't a race, and they would cheer for any vehicle that would pass a bunch, no matter under what conditions. Even the independent followers received at times more attention than the contestants themselves, all depending upon the degree of speed shown at the moment. The factor of reliability was of little or no importance except to those definitely interested; and in this.



one respect at least the run will fall short of its just deserts in popular favor. One fellow who watched the crowd as it came into the noon control at Hartford inquired how long since leaving New York; and when informed a day and a half went away disgusted with the apparent mediocrity of the whole affair. Verily we must have our own points of view!

The newspaper men followed the run by train and automobile, as did also the representatives of the sport and trade press, both as official observers and passengers, numbering twenty-five or more. It reminded one of the old bicycle tournament days at Springfield and Peoria, or the L. A. W. national meets at Denver and Asbury Park. Among the New York daily "specials" who were with the party from beginning to end were A. G. Batchelder of the Journal, Alfred Reeves of the Mail and Express and John C. Wetmore of the Herald, all of whom are responsible for creditable automobile departments; with J. C. Kerrison, whose work is equally well known to readers of the Boston Herald. The result was that some very good dispatches found their way into these publications, in decided contrast to the garbled reports that appeared in other papers. As a rule the newspapers in the cities along the route copied verbatim



CHECKING AND RECORDING



DUSTING UP A BIT



FIRST AID FOR THE INJURED

the last dispatch to some New York or Boston daily, with a few notes of arrivals and departures to give a local color to it. Only the Springfield papers had original reports even of local features.

Through some oversight or error, the police were nowhere to be seen a half hour before the leaders were due at Hartford on the second day out. A member of the A. C. A., who had come from New Haven by train, noticed the fact and telephoned direct to headquarters from the Allyn House control. It was just before noon, and the detachment sent down was in anything but good humor. The sergeant in charge went through the waiting crowd like a "wild" motor and ordered onlookers, newspaper men and even the officials to the sidewalks. It fell to the irrepressible Wetmore to raise the voice of the privileged ones against the summary treatment, and for the moment their colloquy was worth listening to. But the officer, of course, held the trump card, and the Herald man was roughly told that a bit more and he would be put where the rest of the run wouldn't bother him. The crowd was against the sergeant to a man and showed it, too, inasmuch that the officer moved out of sight and peace was restored.

It is frequently said that you will sooner or later meet all of your friends on Broadway; so might it also be believed that an occasion of this kind will bring more of your automobile friends and acquaintances than could be rounded up on any other one pretext. And not only these, but others you know only by reputation or correspondence, or even through some circumstance of slight moment, come into the same orbit in the annual road week of automobilism. It strengthens the social foundations of the sport, while establishing a confidence in and among the trade which counts for much in good fellowship and progress. Trade talk is always permissible and the event has all of the advantages without any of the formalities of a convention.

It happened that two of the three noon controls were in cities noted far and wide for their enterprise and achievements in practical mechanics. At Hartford and especially at Worcester, skilled workmen from nearby factories were among the most interested of spectators, the noon hour giving them an excellent opportunity to view the different vehicles and ask questions concerning them. It was a striking illustration of how the automobile and its possibilities appeal to the man of constructive turn of mind, whether as a hobby, a business or a trade.

The same class was doubtless as well represented in the crowds at other places, but they were more conspicuous at Hartford and Worcester because they had come in their factory and foundry garb, and so were readily recognized. No doubt some of these men do now and others will in time come to devote themselves to the automobile; and they will bring a quality of thought as well as of handiwork to the great value of the industry. Repairers located in the cities and towns along the route were also in evidence; and there were several around the control at Boston all the time it was open. It is only as these sub-surface interests develop that the Reliability Run assumes its real proportions, and its widespread benefits appear.

OFFICIAL OBSERVER.

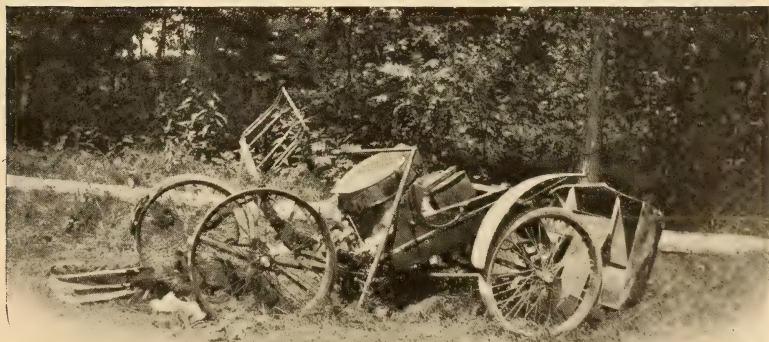
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### Autumn

Now gently falls the fading light,  
The autumn's sunset veil,  
While dusky grows the wavering flight  
Of whippoorwill and quail.

The grain is bound, the nuts are brown  
On every wooded hill;  
The light is softened on the down  
And silvered on the rill.

The reddened leaves with withered wings,  
Swept lightly to the sod,  
And autumn walks the land and sings,  
With rustling sandals shod.





## True to His Trade and Training

**H**E drew his superb form up to his fullest height, and while the fire of anger glowed in his eyes he swore an oath.

"Listen!" he cried. "I tell you it must be done to-night!"

"It must!" cried Edgar Montmorency de Jones. "To-night or it is too late!"

"It cannot be!" protested the other. "It is beyonw my power."

"But did you not promise?" hissed de Jones fiercely. "Did I not have your word? Tell me that, you wretched fellow!"

"Yes, alas! I promised. But I was wrong. I should not have done it. I——"

"Enough!" cried de Jones. "It must be done to-night! At six!"

He strode from the place in anger.

"Well," said the repairman as he slowly lighted his pipe, "it is easy to say it must be done, but if he gets that runabout of his'n out of this place in a week I'll miss my guess."

And then he sat himself down with the daily paper to read about the price of anthracite coal.



WHERE ROADS AND LANDLORDS EXCEL

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## Advantages of Modernity

Mrs. Scorchmore—I thank goodness for one thing, at any rate.

Mr. Scorchmore—What's that?

Mrs. Scorchmore—Even if I fail to do as well as I might, you can't say I don't run an automobile as well as your mother used to.

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## Fast and Furious

"And you say the perspiration ran down your face?"

"Ran down? It scorched."



# THE AUTOMOBILE MAGAZINE

*A Live Journal for all interested in Motor Vehicles*

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## Relating to a Birthday

WITH this issue the AUTOMOBILE MAGAZINE begins the fourth year of its existence. As most things go four years is not a great length of time, but so recent is the coming of the motor vehicle that those who have been connected with it for even so short a time as four years are entitled to call themselves veterans.

When the first copy of the AUTOMOBILE MAGAZINE appeared there was but one other automobile publication in America; to-day there are a score, with promises of even that number being increased.

With the congratulations and well wishes from friends it made when automobiling was an infant, and who remain its friends to-day, when the infant has become a young giant who is the wonder of the worlds of sport and commerce, the AUTOMOBILE MAGAZINE starts on the fourth year of its existence.

TO its old friends and to its new ones the AUTOMOBILE MAGAZINE pledges itself to continue in the future to serve them as loyally as it has always done in the past, asking only in return that its friends of the past will continue to aid it in its efforts to make the magazine a representative publication of and for the best interests of automobilism.

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## Retrospect of the Reliability Run

**W**ERE the 500-miles' round trip between New York and Boston, reported in detail and illustrated by many photographs in this number of THE AUTOMOBILE MAGAZINE, a new and novel departure, instead of a single road event in the steady progress of automobilism in the United States, its special lessons and permanent results would unfold with more distinctness than they do at this time.

Nevertheless, the showing, both of the vehicles collectively and their individual performances, is eminently creditable to the sport and trade; while the promoting club and its official staff deserve the thanks of all concerned for their thoroughgoing, courteous and efficient management from first to last.

The other factor well-nigh indispensable to a pleasant road week—the weather—was nearly all that could have been desired; so it was up to the machines and their operators to find out just what could be accomplished under certain uniform conditions. No such opportunity had come to any previous "Endurance" or "Non-stop" contest; and the official summaries of the event were known to be scarcely less than a report to the American people on the everyday capabilities of automobiles.

The closer examined, the more arduous and impartial the ways and means of bringing out the factor of Reliability appear. Practically there was no unpenalized leeway to a contesting machine, since the ten minutes' margin either way at each "control" had to cover both arrival and registry; and it required good guesswork as well as operating skill and a fair running average to insure a safe clearance.

To the rules, accident and mismanagement were one and the same thing in their effect upon the final record of the vehicle. Such as won out a perfect score on these lines may count themselves fortunate as well as thoroughly tested in road work; and in cases where the only defect traces to some unexpected and inci-

dental circumstance, the same credit will attach in the minds of those who know and weigh the facts.

Other contesting machines may suffer temporarily in the estimation of those who take their information mainly from the summaries, without regard to circumstances; but the substance and conclusion of it all is a valuable gain to the popularity and strength of the movement throughout the country.

Steady increase in the operating efficiency of the standard types of automobiles is written all over the Reliability Run of 1902. That sixty-eight of the eighty entries and seventy-five starters should have finished the 500-miles' trip before the home control was closed at 10 P. M. on Wednesday night is sufficient proof not only that the day of the practical self-propelled vehicle has fully come, but that the radius of its use has been notably lengthened within a twelvemonth.

Those people who have been waiting for more radical improvements are notified by the findings of this event that further delay in purchasing their first machine means time and pleasure lost out of all proportion to the probable advantages of further waiting.

That this fact will be driven home between now and spring to those who are "almost persuaded" to buy is certain, and in this result alone, if there could be none other, the time and money spent by the trade to make the run a representative one will return many-fold. A view in this direction does not detract in any way from the sound sportsmanship of the participants; it simply opens up the way to larger and better things for the future. We are coming close to the best European standards.

The facility with which repairs can be effected on the road was also exemplified, but curiously enough when you come to think of it, by instances which must necessarily keep the machines demonstrating the fact from the formal honors of the trip.

One heavy gasoline car which had behaved splendidly from first to last with this exception, broke an axle cup-bearing a few miles this side of Bridgeport, on the return journey. The attempt to fix it upon the spot proving unsuccessful, a telephone message was sent to Norwalk, and a duplicate part brought to the place by special messenger in less than 70 minutes. By letting luncheon go at Norwalk, and simply stopping for registry at the control, this car was repaired and driven into New York at the required average speed of 14 miles per hour, finishing not far behind the leaders.

Had he been permitted to make up the lost time by speeding after the repair had been completed, this contestant might easily have gone in with the luckier bunch. The delay was, of course, charged to him, and the machine suffers accordingly in the summaries; and there were other instances of like nature, though not under our own observation.

These considerations suggest a possible new sub-division of honor for the next event of this kind, where a quick and permanent repair made on the road may be allowed, under specially understood conditions, to recompense for an accident pure and simple. There is no more important factor in all-around efficiency than this, and the confidence of the owner in this direction may often determine what he thinks wise to attempt in the way of road work, particularly tours.

The representation of competing makes was technically international, though so largely and so distinctively American that it will be remembered especially as an exhibit of our home industry. It seems to be much farther along than bicycle building was at the same relative stage, despite the larger problems to be solved; and with its potential possibilities no other agency of recreation and utility can now or is likely to compare. Eastern makers were, of course, in the majority, New York and New England leading, but with the Western men and machines conspicuous both in the procession and on the list of those having perfect records.

Anticipating a wide and general inquiry from the public at large as to the effect of this particular run upon design, weight, propelling powers and the like, it may safely be said that automobile construction has advanced too far beyond the experimental stage to be deeply marked in its course by any single event on the sport's side. The showings of the different vehicles here as elsewhere will be studied by the makers for guiding lines; and the results will be read in the added refinement and increased efficiency of coming models.

A numerical majority of entrants were naturally gasoline vehicles; but the work of several steam machines was unsurpassed. It was not an occasion to try out the road possibilities of present electric types, and the only one to start dropped out of sight somewhere along the way. All weights figure side by side in the first class certificate list, showing that this problem is more a matter of power ratio and proportion than of practicability or otherwise.



The American people will find abundant use for all present types and weights, with more certain to be added as the result of longer experience; and the designer and builder will be found equal to the task of their production. The issue of this run was put squarely upon the factor of "Reliability," applied to all indiscriminately; and the emphasis was very properly kept there throughout the trial.

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## Where Nature Beckons

**H**E who, owning a motor vehicle, is content to pilot it always and ever through crowded traffic on street and boulevard, is to be pitied. Why does he not take himself and his carriage away from the city and out into the country? What if the roads are not so smooth, nor the possibilities of display so great? To pay for their absence the very air is invigorant; fragrant from the harvest, spiced with wood smoke, bracing from the first frosts, scintillant with the glorious sunshine that fills the shortening autumn days with splendor and makes thin and luminous the attendant shadow.

"Bob White," shrills of "more wet, more wet;" his Quakerish little wife, with half-grown brood, trimly speeds across the roadway, into the ripened corn, or with musical "whir-r-r-r," rises to dive into the distant sea of undulating brown.

Meadow larks trill and carol on the rusty wire, or perched on the infrequent posts that hold the cattle from the ripened field. Hawks fly low; frightened sparrows flutter into trees and hedgerow; rabbits scurry from bare pastures to grassy covert, or sit erect and watch with distended eye, quivering nostril and rigid ear, the impending danger they dread from the chug, chug of the motor, which impels you on your way. Murmur of voices, the morning cock crow, the lowing of cattle, are as distant music carried softly to the ear by the voluptuous air.

Corn shocks dot the roadside fields—tents of an army that stands nearby in whispering ranks; a multitude of peace and plenty; no arms, no equipment, but a haversack of golden grain on hip and shoulder. Save a weary few, they stand expectant, awaiting to deliver their garnered wealth, be mustered out, and with empty pockets, light hearts and fluttering banners retrace their steps via a mouldering way to the place whence they came and rest.

In rusty velvet fields, big dusky haystacks stand in herds or gather in about the barn, shouldering one another in ponderous good humor. From the inspiration of the caressing air, the peaceful, plenteous view, satisfied achievement of a summer's work, of goodly store from nature's plenty, the automobilist who seeks pleasure in country rides, may look with brightened eye, bounding blood and defiant head to the north, undaunted by the icy breath that tells of coming snow.

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## The Man and the Motor

**I**T is almost universally declared that a horse invariably knows when the person who holds the reins over him is afraid, and the conviction is rapidly growing that some such theory will be required to explain the apparent combative instinct of the motor vehicle.

Novices in the management and control of an automobile are naturally reticent about many of their experiences, but enough of them have been made public, however, to invest the mechanical carriage with an awe-inspiring personality never before accorded to an inanimate object. The tendency of an automobile to go out of its way to indulge in unexpected and undesirable performances is a mere aimless flippancy that has ceased to cause any surprise to the nervous novice.

The utter absence of such performances in the same conveyance when it is controlled by an experienced individual is so very marked as to make it at once evident that the alleged depravity is entirely one of man, not machinery. As in the case of the horse, the motor at once detects the man who is ignorantly afraid of it, and promptly proceeds to have fun with him.

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## What Machinery Is

**T**HE general theory of mechanisms which the spread of automobiling is daily making of vital import to a large number of people whose previous training and experiences have not qualified them for understanding, is not nearly so complex as the majority of the newcomers think it to be.

Defined as near as may be in a few words every machine, whether automobile or otherwise, consists of a number of material bodies, resistances, joined together reciprocally, upon which natural

forces act to produce a desired effect, and the effect may be either a state of rest or one of motion.

The resisting bodies and their connections are the mechanism. Its effect is not known until we define the acting forces. The same machine will produce different effects according as different forces play upon it.

Machines are subject to three effects: static, when the forces produce equilibrium; kinetic, when the result is motion; and, finally, dissociative, when the connections of the machine are changed. The latter effect is usually not considered, but it is essential to take it into account.

No machine could be built, in the first place, unless it was capable of dissociation. In some machines—locks, for instance—the parts are dissociated every time the apparatus operates. It is desirable to design most machines, however, so the dissociative effects do not come into play during their operation.

It is along the line of thorough understanding of the few basic hints above given that the right kind of knowledge of an automobile can be most quickly arrived at. There are no "short cuts" to a proper understanding of any machine, and it is because so many owners of automobiles have been convinced to the contrary that their matriculation and graduating from the college of experience has been so expensive to them and disastrous to automobiling.

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We would commend to the promoters of American automobile tests or runs the very excellent idea of our British cousins, by which the securing of good and impartial observers is made a certainty. As an essential to the acceptance of the entry and after that of a chance to compete, each vehicle entering British tests must supply an observer satisfactory to the committee in charge. When the observers are allotted, however, the committee does not allow the observer to act officially for or with his nominator. The result of all this is that a sufficient number of expert observers is sure to be on hand, and as in every case the observer is assigned to the vehicle of a stranger, he can best serve the interests of his nominator by seeing to it that the vehicle he is in most strictly obeys the rules of the contest. There is room for considerable improvement in the American system of appointing observers, too often like kissing the allotment of these important officials is made by favor, a thing which, however correct it may be in kissing, is not at all so in contesting.

One of the strongest testimonials for the automobile which we have yet heard of comes from Mr. H. C. Frick, the well-known steel magnate of Pittsburg. Mr. Frick is reported to have said recently that the difference between his old method of driving to and from business each day and his present method of going in a motor vehicle is worth at least half a million dollars to him annually through the saving in time. It appears that Mr. Frick lives fourteen miles from his office, and that he invariably covers that distance night and morning in an automobile, the time required one way being exactly twenty-two minutes, a slight strain upon the legal speed restrictions, perhaps, but still not quite enough to condemn the practice—unless Mr. Frick is caught and convicted. This we hope he will never be.

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With a gradient in portions of the course as high as one foot in twelve, M. Cauchord recently won a contest up Mt. Veuloux, the steepest hill road in all France, in 27 minutes, 17 seconds. Such performances as these are but little short of marvelous and once for all remove the motor vehicle from the realm of the experimental; any method of conveyance which climbs a mountain at a rate of speed close to two minutes for each one of a dozen miles comes very near being a demonstrated success.

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Automobile owners are not the only people who are persecuted on account of horses being nervous. A Spokane, Wash., paper says: "A petition is in circulation in the resident sections of the city asking the city council to pass an ordinance preventing locomotives from blowing whistles within the city limits. The petition states that the railroads pass through the business and resident portions of the city and the blowing of whistles is dangerous in that it is likely to cause runaways."

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It is well enough, of course, to call a spade a spade, but there are times in criticising a motor vehicle when the calling should be done in a whisper.

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Time may be money, but somehow the manufacturer always appreciates the money the automobilist spends with them more than the time.

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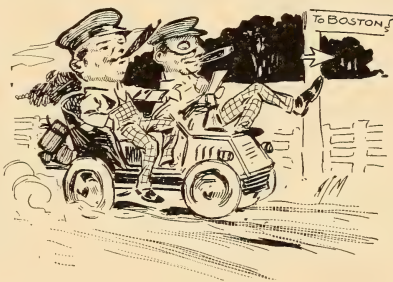
The more a pneumatic is blown up the bigger it gets, but the more a married man is blown up the smaller he feels.





THE 1902 endurance or reliability test is over and a few words from one who went through the 1901 test, New York to Buffalo, and the New York and Boston picnic run, may be of some use. It is a question in my mind if any real comparison can be made or drawn between the two tests. The roads and the weather were entirely dissimilar, as any who took part in both tests will readily testify. The New York to Buffalo affair was undoubtedly the most severe public test that any automobile will ever be put to in six consecutive days. Despite that, however, over 50 per cent. of the vehicles starting most creditable automobile manufacturer.

That any of in the recent Boston test the wayside was surprise, as it is perfect roads or have been chosen for a test of the practical and reliable construction of automobiles. It was at once apparent that great improvement had been made in the twelve months which had elapsed since the Buffalo endeavors. But even so the test was quite ample enough to point out to several manufacturers where they could make improvements in construction and they were fortunate indeed that the elements and the roads gave such a perfect combination for favorable results. Taken all in all, however, the test was a splendid advertisement for the American automobile, since it conclusively proved to the public that the American automobile has reached a stage in its development which no longer leaves room for doubt as to the advisability of at once joining the automobile procession. The roads were practically perfect, with the exception

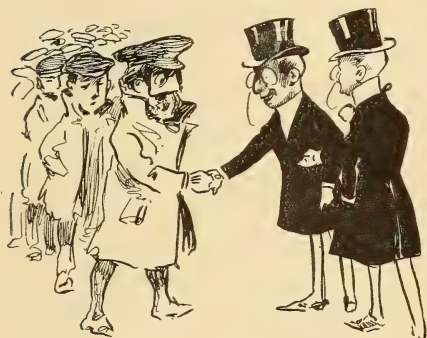


the competitors New York and should fall by also a cause for doubtful if more weather could

of those between Springfield and Worcester, and some roughness between Hartford and Springfield. The authorities of Connecticut and Massachusetts can justly feel proud of the splendid progress their states have made and are making in modern road building.

As compared to the 1901 test the 1902 one was a social and gala occasion, since the participants had plenty of opportunity to

get acquainted. The liberal time allowed and several short runs between controls made it rather irksome for some of the competitors who had to do a lot of low-speed work in order to prevent disqualification at the hands of the officials. Too much cannot be said for the entertainment provided by that model automobile club, The Massa-



chusetts of Boston, which threw open its splendid establishment on Boylston street to the pilgrims. The resulting gathering reminded me of the old bicycle meet days, when every wheelman was glad to meet another and strong fraternity existed. The automobile bids fair to create another such desirable condition. One of the decorations in the Automobile Club of Massachusetts is a fancy automobile picture of good dimensions, handsomely framed, being the gift of this magazine to the club some two years ago, and to show their appreciation the Massachusetts gentlemen fastened to the frame a gold plate mentioning the source of the gift.

At Hartford the tourists were taken the best of care by that clever firm, the Hartford Rubber Works. President Parker and his merry men saw to it that no automobilist went thirsty or hungry when passing through the capital of the Nutmeg State. The parlors of the Allyn House and the large dining room gave Mr. Burton Parker and his staff a splendid place for looking after the comfort of his firm's guests.

At Springfield the Knox Automobile Company provided an evening spread on the way to Boston and a large company took advantage of the Knox Company's thoughtfulness. Inadvertently, I imagine, the Knox people made a mistake in not looking after the newspaper contingent, with the result that the New York and other press men enjoyed a little banquet of their own in the café

of the Cooley. The J. Stevens Arms and Tool Co., manufacturers of the now well-known Stevens-Duryea vehicle, profited by the mistake of the Knox people, with the result that the home papers of the press men gave splendid accounts of the entertainment. The Stevens blow-out consisted of a theater party, followed by a smoker. The affair was largely attended and was really the star entertainment of the trip, since everybody had spare time, since the next day called only for the short run between Springfield and New Haven, a matter of some 68 miles.

One of the pleasantest features of the run was the uniform courtesy displayed by the contestants. This was particularly noticeable when a disabled vehicle was passed. When this occurred the one passing would inquire: "Can we be of any service to you?" Speaking of this, I was much impressed by an incident which took place between Worcester and Bos-



ton. Some 20 miles out of the Bay state capital, Elwood Haynes ran alongside one of the Apperson Bros.' cars, which had become temporarily disabled, through losing a part of their circulating pump. Mr. Haynes saw that something was wrong, and although the Appersons were active competitors in Mr. Haynes' home town, the head of the Haynes-Apperson Co. called out to Edgar Apperson: "If I can be of any service, Edgar, I will stop." Knowing the relations formerly existing between the two and the present friendly rivalry, I turned to Mr. Haynes and said, "Mr. Haynes, you are certainly a good Samaritan and I admire the spirit which actuated you to offer your services to Mr. Apperson." To which comment Mr. Haynes replied: "It does not aid me in any way if anything should go wrong with any of my competitors. I want to see them all do well, since their doing so will be good advertisement for the automobile business." This proved to me that Elwood Haynes, of Kokomo, Ind., is the kind of man no business can have too many of. Some of the other contestants, however, in moments of enthusiasm and excitement temporarily forgot the courtesies of the road. Three or four of this kind passed the vehicle I was in on the wrong side when we were leaving Springfield on the last day of the trip out.

Another lesson gleaned from the run was the uniform welcome accorded the automobilists by the people all along the road. No Roman conquerors on their return to Rome ever received a more enthusiastic acclaim than did the New York and Boston endurance people, which went to show that in one year a great and a favoring change had taken place in public opinion, since there was a decidedly hostile feeling shown through New York state on the occasion of last year's contest. Of course, the superiority of New England intelligence and culture may account for this, but I lean to the opinion that this change has been caused mainly through the altered feeling toward automobilists and automobiles in the editorial offices of the big dailies. When editors of such papers as the *N. Y. Herald, Journal* and *Sun* become active automobilists themselves, then something happens.

The comedian of the trip was Percy Owen, the capable manager of the Winton's New York city branch. Mr. Owen grew in favor from the start and he was closely pushed for popularity honors by W. J. Stewart of the New Jersey Automobile Company. At the Springfield theater party a few of us dared Percy Owen to dance with the leading lady. The next moment he was dancing gracefully behind the footlights with the star, Henrietta Lee, to thunderous applause. Between Meriden and New Haven the Winton car, with Owen aboard, passed a farmer whose hippomobile was loaded with live chickens. Stewart was appointed a committee of one to negotiate for a crate of the cacklers, which he immediately proceeded to do. After completing satisfactory negotiations, which resulted in his becoming sole owner and proprietor of some fine male and female chickens, Stewart suddenly became aware of the fact that Owen and his car was a mile down the road. Stewart waited and placed the crate on the first automobile that came along, and by means of sprinting relays, he finally caught up to Owen, and the pair arrived in New Haven to the accompaniment of a rooster chorus. The big Winton car was promptly surrounded by Yale students, who were presented with the fowls and in turn the students extended urgent invitations to Messrs. Owen and Stewart to partake of roast, boiled and fricassee chicken in the dormitories that night. That the different suppers came off was very apparent on the campus when shortly afterward the breezes wafted the perfume of cooked chicken. W. J. Stewart posed for a photograph at Hartford with a friend who is shown elsewhere in this issue, while the head piece of Mr. Stewart's acquaintance looks very much like it



was made from a muffler. I really believe a tomato can was its father. The business of the wearer was advertising some sort of salve and he was delighted to meet the automobile gentlemen, but he did not bargain for a three-mile walk back, which came to him after scraping up an acquaintance with Stewart, who held him in the vehicle until he had gone three miles out of town, and then released him after telling his unwilling guest a ghost story that it was against the rules to stop or go slower than 15 miles an hour. The arm seen in the picture belongs to Percy Owen, as he was throwing it affectionately around the tomato can owner's neck.

It was the general opinion that the task was too easy, and as a result of this belief, Alfred Pierpont Reeves, of the *Mail and Express*, has already come away with a story advocating next year's run being scheduled from New York to Montreal, and 1904's from New York to St. Louis. "Al" Reeves, however, does not know as much about the roads between New York and Montreal, or he never would have proposed such a route. THE AUTOMOBILE MAGAZINE's road expert, Robert Bruce, tells me that there is practically no road between New York and Montreal, and that the trail between Albany and Plattsburg, along Lake Champlain, would come pretty near losing an Indian. Of course, the road to St. Louis is a different matter, since a good route might be picked out.



Here is a suggestion for the next run, which I think is practical and which in my humble opinion would fill all requirements. Why not organize six separate runs from New York to some point and return? One day say Poughkeepsie and return, or even Albany. New York to Montauk, L. I., and return or even to Montauk and back in two days. Then to Bridgeport and return; employ another day in Jersey and still another in going around Staten Island. There's a plan which would give the metropolitan papers plenty to talk about.

I think the time has arrived when minor repairs and small breakages, such as come to chains, for example, should not count against the vehicle, only when a complete new part is utilized to make the repairs. One of the Haynes-Apperson machines driven

by Heber Michener, was forced into a ditch at Yalesville, Conn., in order to avoid running into a big machine which would not allow it too pass, and the result for the Haynes-Apperson vehicle was a broken spring hanger. Now this was no fault of the Kokomo machine and I was surprised to see that the committee penalized the Haynes-Apperson carriage for an accident over which the driver had no control.

One of the features of the run which means a good deal to the steam carriage interest was the splendid showing made by the steamers. Taking the two types of vehicle, gasolene and steam, and the number of breakdowns experienced by each, the steamers certainly showed up in great shape. All this goes to prove that the day of the steam vehicle is far from having had its day, and Prof. Sweet's judgment, as expressed to the writer



some time ago, to the effect that the steam vehicle would yet become a most popular automobile, bids fair to be realized. The Prescott Automobile Co. only entered one vehicle and the work accomplished by the little red Prescorter was marvelous, in all of which the driver, Harry M. Wells, deserves no small credit for the complete and clean score he made. The White Sewing Machine Co., of course, was expected to score, as that is always expected of the White, and the Cleveland crowd acted and looked as if they were on a picnic run, so easy did they take matters. The Foster Automobile Company, of Rochester, qualified with the winners and qualified for the cup and repeated the good work this same steamer did last year over roads immeasurably worse. Grout Bros., of Orange, Mass., were distinctly in the run, and Charles B. Grout, in his red football jersey, took matters very easily.

One of the pretty incidents of the trip was the appearance, at various stages of the journey, of a gentleman and three ladies of his family in a Stanley steamer. The young ladies of the party made a decided hit owing to their deportment and beauty. The White steamers at the finish came in all together, as did the Haynes-Apperson trio of vehicles. Frank Nutt, the driver of the Haynes-Apperson phaeton, had a perfect score, and as a matter of fact so did Heber Michener of that company, with the exception

of the ditching experience I have noted. Mr. Haynes suffered disaster through the faults of a chain manufacturer. The Stevens-Duryea carried out a prediction I made in regard to that machine after I had seen it some time ago and its performance was the talk of the run. The Knox Automobile Co. also gained in popular favor and did the usual good work expected of the waterless automobile. The Thomas B. Jeffery Automobile Co. won a host of new friends, the Kenosha made carriage doing some surprisingly good work. Mr. Jeffery himself was on the run from start to finish and it must have reminded the pioneer manufacturer of the early days when the bicycle business was in its infancy. The two Rambler automobiles made by Mr. Jeffery, were superbly handled in the run by Arthur Gardner, the old bicycle champion, and Gaston Plaintiff, who is representing the Jeffery Company in a missionary way in New York.

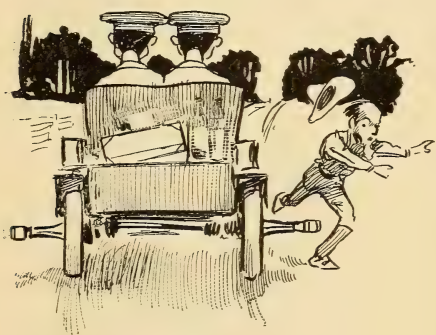
The Fournier-Searchmont people certainly cannot complain as they had success measured out to them by the bushel. Three starters and three prize winners of the first order was the verdict of the committee on Searchmont's. J. S. Bunting, an old Princeton forward football man, put his particular Searchmont through as if he was bucking the line, and he won, too, just as he did in his college



days. Mr. Bunting is the Philadelphia manager of the Wanamaker automobile department. L. J. Sackett, now with the N. Y. Wanamaker automobile establishment, drove a hard race with Bunting, while R. Green, another Searchmont man, did his duty. The party were assisted by Wayne Davis, the Wanamaker automobile school man of Philadelphia. Looking at the Searchmont in 1902 as compared to the Searchmont of 1901, it is at once evident that there is no comparison. Mr. Gallaher and his superintendent must have been doing some pretty tall thinking and work since October, 1901. William Deavor Gash, the clever sales manager of the Searchmont Company, was all smiles on Thursday, when he received a telegram telling him of the committee's report. By the way, he is now called "Mr. Deavor," because a gentleman of that name was "pinched" by a bicycle policeman recently at the

village at Radnor, near Philadelphia, for violation of speed laws, which are not so elastic as the Radnor treasury, which can always hold a little more automobile money. Mr. Gash, of course, denies that he is "Deavor," but two young society ladies of Philadelphia have gone on record with the statement that he looks like the man. Whoever the "Mr. Deavor" is, he is letting a wealthy banker fight the Radnor authorities, who was also asked to contribute to the Radnor treasury, but who, unlike "Mr. Deavor," who gave up \$12.90, is holding on to his cash, while declaring he is willing to spend some of it in law to see if the Radnor bicycle policeman's watch is right.

The Packard made an excellent showing, and Messrs. Harlan W. Whipple and G. L. Wiess deserve their gold medals. Mr.



Whipple's hubs did no damage, although they took up a good deal of the road at times. Mr. Whipple was one of the joyous sort on the run and drove with the precision of the engineer of a 20th century limited train, despite which he had time always to shout a cheering word as he passed or was oc-

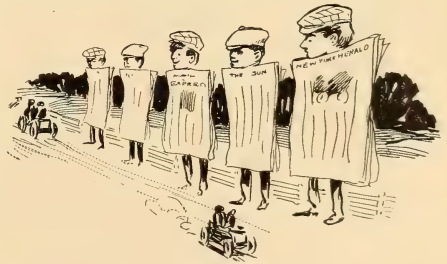
asionally passed himself. The Apperson Bros., with their two new cars, made a brave showing, and it was easily seen that their training in the Haynes-Apperson factory fitted them for personal endeavor of a high order.

The Autocar Co., of Ardmore, Pa., made a good impression with their three businesslike little touring cars, which were sent fresh from the factory over the roads to New York for the contest, and they came through without any trouble worth mentioning. This was a tribute to the motor designing ability and construction work of President Louis S. Clarke and John C. Spiers. This reminds me that autocar output is always disposed of in advance, and it is a common thing to see Frank Eveland, the Spalding Company's New York manager; W. J. Stewart, of the New Jersey Auto. Co., and Manager Ben Smith, of the H. B. Shattuck Co., of Boston, at the Autocar factory, each waiting to grab the next car that comes out.



The Olds Motor Works' Oldsmobile, which figured in the gold medal class, was driven by Ray M. Owen, the New York manager. The Geo. N. Pierce Co. for once did not have a perfect record and some little thing which did not amount to much penalized the machine and its driver, Percy Pierce. A newcomer which must be watched is the gasolene carriage made by the Fredonia Mfg. Co., of Youngstown, Ohio. Two of those machines did capital work and were not expected to make the record they did. Carlton Mabley, of Smith & Mabley of New York, drove his American made C. G. & V. through at express train speed. One of the party in Mr. Mabley's car was his bride, who took a very active interest in the success of the new American machine and whose girlish beauty captivated the ladies along the road. The Neftel Automobile Co., of New York City, entered their combination gasolene and electric vehicle and it did the electric carriage business no good, since something went wrong with the affair early in the test. The Winton Motor Carriage Co. seemed to treat the run as a joke, and I do not think tried very hard for a first place, but Harry Fosdick, the Boston manager for Winton, scored a scoop by running through from Boston to New York in the fastest time on record. This was a clever move, as it is doubtful if such good roads and such good directions, together with a moonlight night, can be had for some time again.

The newspapers evinced great interest in the contest and many of the metropolitan papers had special representatives with the run. The irrepressible John C. Wetmore represented the *N. Y. Herald* and sent to Automobile Editor John Gerrie very satisfactory reports. In describing the Connecticut girls for the *Motor Age*, Mr. Wetmore said that "Their cheeks were as rosy as apples



on the trees and that they were dressed for the most part in Connecticut wrappers." Of course, John has not forgotten his Biblical training, and his mind no doubt reverted to an elder sister, Mrs. Eve, who tradition says had a wrapper of fig leaves. At Springfield, some hours after filing his dispatch to the *Herald*, the local telegraph manager called John up and stated that if he wanted the dispatch to go off that night he would have to come to the office

and rewrite it, as their operators did not understand Japanese. John explains that he once lived with a Japanese family in Chicago and that at rare intervals he lapses into the writings of the land of the Mikado.

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Arthur J. Eddy, the Chicago lawyer whose "Two Thousand Miles in an Automobile" is the most interesting book on the subject of automobiling yet published, makes in it some very practical observations, which are none the less valuable on account of the very interesting style in which they are written. Concerning the various modes of power now employed in motor vehicles he says: "Any woman can drive an electric automobile, any man can drive a steamer, but neither man nor woman can drive a gasoline; it follows its own odorous will, and goes or goes not, as it feels disposed. One of the beauties of the beast is its strict impartiality. It shows no more deference to maker than to owner; it moves no more quickly for expert mechanic than for amateur driver. When it balks it balks—inventor, manufacturer, mechanic, stand puzzled; suddenly it starts—and they are equally puzzled." While I can't quite indorse all of the foregoing, yet I've seen enough of automobiles to know that this balkishness is not by any means confined to the gasoline type. Evidently Mr. Eddy himself thinks rather well of the gasoline vehicle, since he uses no other form of power in the vehicles he tours in.

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I saw a real one horse power contrivance last week up on North Broad street, Philadelphia, in a large three-story building that will be occupied by the Banker Bros. Automobile Co., who have found their two places a little farther downtown too small for them. On Dec. 1 the Bankers will go into the new building, which for forty years has been devoted to the horse, his sale, livery and boarding. The one horse power referred to is situated on the second floor and is operated by "Dick," who has churned a revolving barrel sort of thing for twelve years. Dick is fastened in a pen and his continual tramping runs the elevator. This sort of H. P. is quite common yet in sawmills and for feed cutting on the farms of the West, and that was where "Dick" learned his trade before he came to Broad street to supply power to cut feed for his brothers. The Banker Brothers will use "Dick" as a curiosity until they install a new Otto gas engine of 25 H. P., which will not only run the elevator, but will also supply power for the machine

shop as well. It is the Banker Bros.' plan, after supplanting "Dick" by a motor, to pension him and turn him loose on some sunny slope near the Quaker City, where he may pass his last days in peace. Arthur Banker and L. D. Munger, when sizing "Dick" up with the writer, wondered how they will get him in the field, as Dick has been a house dweller for so many years that there is danger when he gets into the street once more he will continue his old trick of turning the barrel and dig a hole in Broad street and then fall into it.

I suggested that the Bankers parade "Dick" through the streets of Philadelphia with an appropriately worded sign on him, stating that he had been retired by the automobile and and an Otto gas engine. The former proprietor of the livery stable, Mr. Hart, is one of the oldtime horsemen, who specified in his lease to the Bankers that he be allowed to occupy an office desk in the new



establishment, since he would not be able to break up his forty years' daily visit to the building all at once. To this reasonable proposition the Banker Bros., with fine sentiment, assented. Mr. Hart is well disposed toward automobiles and has taken several rides with George Banker, but he confesses that he gets rattled when Banker steers within an inch of a street car. Mr. Hart gives automobilists a cordial reception and offers all comers a sample of his very fine harness oil, made somewhere up on the Monongahela river. The Banker Bros.' establishment will give them the greatest floor space in Philadelphia and will be a worthy competitor of their Pittsburg and New York stores.

Wedding bells will soon ring in Philadelphia for the marriage of C. A. Musselman, the clever young secretary and treasurer of the Trade Advertising & Publishing Co., publishers of the *Cycle and Automobile Trade Journal*. Mr. Musselman has been a tower of strength to his company, as he is not only a clever advertising man but an artist as well, and together with Editor James Artman and Geo. H. Busby, these people can point to a record unequalled in the publishing business in their particular line. That Mr. Musselman has won his bride—if hard work counts for anything in a

business way—there can be no gainsaying, and I would like to see the old liberty bell rung a few times for the young publisher of the Quaker City.

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Mr. E. B. Gallaher, who for two years was engineering head of the Fournier-Searchmont Co., of Philadelphia, has decided to make a change, and will in future be found at the pretty factory at Tarrytown, where he will be general manager of the Mobile Co. of America. Mr. Gallaher made splendid progress with the Philadelphia company, as the verdict in regard to the Fournier-Searchmont in the Boston-New York run will show, and he must have been offered very convincing inducements to induce him to desert the Quaker City concern. It may be that John Brisben Walker has decided to make the two types of automobiles, one steam, the other gasoline, as Mr. Gallaher is essentially a gasoline man, but we shall know more of this later on.

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Trade journals are getting too technical for the ordinary man who wants to know something about an automobile, especially his own, said a man the other day, and what they print sometimes is not always easily understood by a factory superintendent. It is one thing to sit in an office and draw lines and write things of a deeply technical nature, but it is another thing to get the man who wants to know to understand what the editor is writing about. Many a mechanic will bear witness to having constructed motors, pumps, and other things on the plan laid down by the editor in his lofty editorial sanctum and they do not always come out right. This idea was discussed with the writer recently by I. D. Lengel, the clever mechanic and superintendent of the Meteor Engineering Co., Reading, Pa., who has had some experience in following trade journal drawings. Mr. Lengel thinks that the mechanic has to learn by actual, practical experience of a working order what will work right, rather than follow the theoretical plans of the editor. This Mr. Lengel thinks can be said of the leading technical journals. It seems to me what is wanted is a sort of A, B, C primer which should be sent out with every manufactured automobile and part of automobiles on the plan of the illustrated booklet one gets when he buys a camera, which tells all about stops, diaphragm, etc. What a man really wants to know is how the automobile he owns should be run and all about the various parts thereof, where they are located and where he can put his finger on the trouble when it occurs. He is not interested in the other fellow's automobile very much, but he is particularly interested in his own automobile.

THE SENATOR.







# THE AUTOMOBILE MAGAZINE

VOL. IV

DECEMBER, 1902

No. 12



## *The Shooting* *By* *Marin J. Kent* **Scooter**

HERE are no wheels in my head," gravely responded the inventor to Ira Baldwin, who had intimated that perhaps there might be something of the kind, "but I have an automatic scooting rod that will render an automobile as safe as a baby carriage in the hands of a careful nurse. My device," continued the inventor now wound up to a finish, "consists of a light steel rod placed in advance of the front wheels of a vehicle and long enough to reach from tire to tire. The contrivance is held in a horizontal position by a rod projecting from its center and strongly braced. The two rods form a T. The supporting rod runs through carriers and the free end operates a trigger that releases a powerful spiral spring that has a lifting capacity of five hundred pounds or more.

"The spring is easily set with a lever attachment which connects with the trigger. You can clearly see, therefore, that if anything should strike or press on the horizontal rod in front of the wheels the lateral rod would be driven in and, pressing the trigger, would release the spring. The seat on a motor vehicle equipped with my protective rod," and here the inventor smiled triumphantly, "is detachable, or rather it rests on four concealed small wheels that run on ways fastened to the body of the vehicle. In short,

the seat will run along the ways and free itself from the body just as a trolley car would run off the track if a section of the rails were removed.

"By a clever arrangement, when the spiral spring is released, it shoots the seat clear off the body, while at the same time the flap of the seat is lifted by a ratchet attachment and with it the limbs of those in the seat. The seat is weighted so that it invariably alights ride side up, runs along on the wheels and gradually stops. Of course, the upholstery of the seat prevents any jar. If," concluded the inventor, stopping long enough to draw a deep breath, "an automobile provided with my rod shies into a stone wall or is collided with, it just scoots the occupants out on terra firma, safe and sound, and so neatly that there is not the veriest tremor in their spines. The vehicle may be smashed, but the passengers in it won't be hurt or even jarred. I call it the shooting scooter."

Baldwin was not an easy mark by any means, but the earnestness and apparent honesty of the inventor so impressed him that he finally gave him an order for a road machine equipped with the famous protective rod and sliding seat. When eventually it was delivered to him, moved by the humor of the whole affair, he promptly named the new affair "The Shooting Scooter." He was really rather proud of the new vehicle, and being very much in love with a young woman who had not fully made up her mind whether she was in love with him or not, it was but natural that he should expatiate upon the merits of his new purchase when in her presence and, in consequence, gain her consent to be the first girl to test its capabilities.

Elsinore Biggins was a handsome, stylish girl who had, influenced by her environment and consistently cultivated self-containment until her reserved manner was quite exasperating to those who, because of her loveliness and fortune, would fain have wooed and won her. But, as under Hecla's breast of snow the constant fires consume and burn, so underneath a calm exterior Elsinore Biggins concealed a passionate heart and a romantic disposition.

In a congenial atmosphere she would have been a daring girl. Her father, a wealthy operator, was pompous and puritanical and her mother was a sort of a feminine icicle. Baldwin was nearer to the heart of Elsinore than any other man and if he had been less prosaic and more of a romancer she would have loved him with all her soul. But Elsinore, with her romantic yearnings, was looking



for her prince who would win her in some extraordinary manner. So, with her temperament, her father's pomposity and her mother's chilliness, Baldwin had uphill work in his wooing, but he was persistent and at the last the inventor came to his aid.

On the day that Elsinore and Baldwin were to try the new-fangled carriage, and it had been agreed that they should make the test by taking a long run into the country, Baldwin was at the Biggins mansion soon after the breakfast hour was over. Elsinore was not ready and so Baldwin volunteered to take pater Biggins down to his place of business. The machine worked to a charm, but as Baldwin slowed up in front of the great office building where he was to leave his prospective father-in-law, he was slow in applying the brake, and before he could stop his progress the protective rod bumped against the wheel of a cab ahead. With a zip the two men were hurled backwards with exceeding velocity. There was a wild yell of delight from a concourse of newsboys and boot-blacks as the shooting seat and its occupants sailed through the air, struck the pavement and rolled slowly to a standstill. The astounded and dazed pere Biggins arose to his feet, rearranged his dignity, and, after glaring at the discomfited Ira, strode into his office and hurled anathemas at every human being therein.

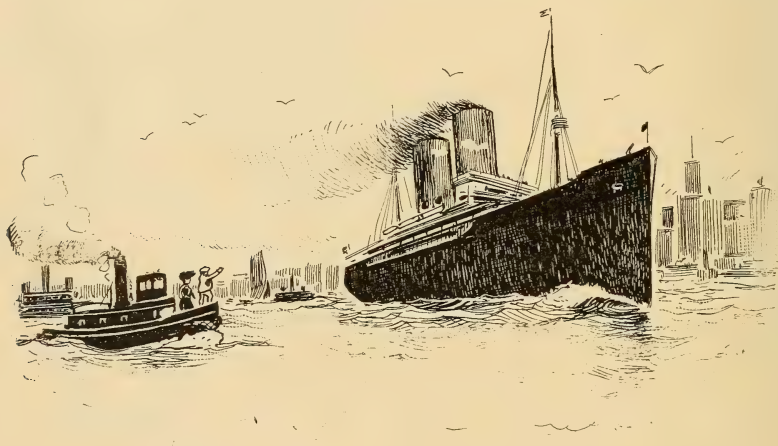
Baldwin, who did not care a rap for the wrath of Biggins, found no difficulty in resetting the spring, and, with the help of the bystanders, in readjusting the seat. As he bowled up to the Biggins mansion again he congratulated himself upon the reliability of the protective rod and the immunity from danger afforded by it. Elsinore was awaiting him and the auto rattled to the Barclay street ferry, as the trip was to be made in Jersey.

Baldwin's carriage was the last vehicle that boarded the ferry-boat and behind it there was scant room to stretch the deck chain. As midstream was reached a loaded truck backed against the protective rod, and the obedient seat, with Elsinore and Baldwin, shot transversely over the chain and was safely deposited on the deck of a tug which was steaming past almost under the stern of the ferry-boat.

He who quickly seizes an opportunity is no chump, and Baldwin, far from being one, thought quickly and to the point. To the astonished pilot of the tugboat he said: "One hundred dollars if you will put us safely aboard that boat," pointing to a Cunarder that was slowly steaming out to sea. Elsinore was in a half fainting condition and clung to Baldwin in affright. The pilot turned

the nose of the tug and ran alongside of the steamer. The two were got on board and Elsinore was placed in the hands of the stewardess and the ship's doctor for, although the flight from the automobile had not seriously injured her, the suddenness of it all had left her in a state of nervous prostration and too dazed to fully realize her position. By evening she had recovered sufficiently to understand the situation and in tears sent for Baldwin. In answer to her reproaches he quietly said:

"There is no question but that I abducted you, and I did it because I love you and know that after what happened this morning your father will never let me marry you. There is a minister aboard and you can make me the happiest man in the world by telling me that I may bring him here to make us man and wife. In truth, I see no other way out of the doubtful position that my rashness has placed you in and I beg of you to consent."



Elsinore's inner nature arose superior to her long training and she murmured, "How romantic!" For the moment Baldwin was a hero in her eyes and at last she said with maidenly hesitancy, "You may bring the minister, Ira."

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### But He Got Away

There was no avenue of escape. The relentless pursuer was coming rapidly on.

"An avenue might be better," muttered the scorcher, "but as this street is asphalted, I shall be able to lose that bicycle policeman."

And that is just what he did.

# Non-freezing Liquids for Cylinder Jackets

By E. E. KELLER

**W**HEN cold weather came on last fall I became interested in the subject of non-freezing liquids for cooling gasoline automobile motors, and began to inquire among builders, agents and users as to what was a satisfactory and non-injurious solution to use.

I had occasionally noticed, in some of the automobile journals, mention of calcium chloride solutions and diluted glycerine for this purpose, but nothing of a definite or positive nature. The articles noted were usually nothing more than remarks that this or that substance, in an indefinite and varying form, was suitable.

My inquiries proved that there was no definite information to be had from the sources tried. Among the objections to calcium chloride were the following: "Engine got too hot," "Stuff would freeze when it was only moderately cold," "It cost too much," and, most alarming, "We have tried it at the factory and it ate holes in the tanks, pipes, and even the cylinders."

Glycerine was said to work well in some cases, but was very expensive, since it became foul in a short time and had therefore to be frequently renewed. Where rubber hose was used in connecting various parts, these were attacked and caused failure.

I then decided that, inasmuch as  $\text{Ca Cl}_2$  was supposed to be a neutral and inert substance and was really cheap if not purchased in homoeopathic doses, it being practically a by-product worth, in large quantities, from  $\frac{3}{4}$  cent to 1 cent per pound and purchasable in the quantities now under consideration at from 5 to 10 cents per pound (although one wholesale chemist asked me 65 cents per pound for the commercial article), I would avail myself of facilities in the way of assistants and apparatus ready to hand and have a few simple and easily made determinations carried out, so that the information to be gained might be available for the free use and information of my fellow users of gasoline automotors, and that the doubts now surrounding the subject might be, to at least some extent, removed from their minds.

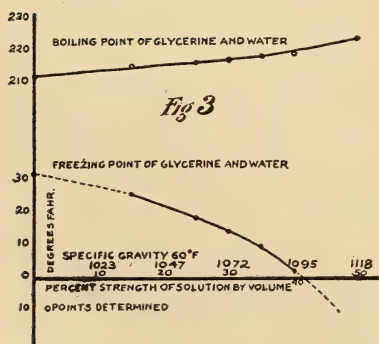
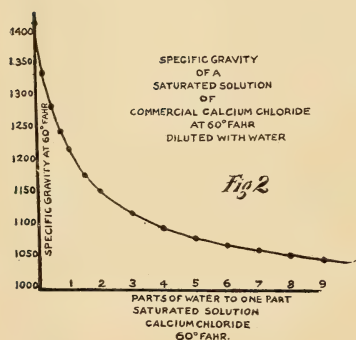
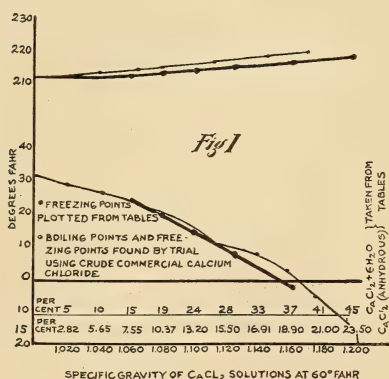
The diagram (Fig. 1) shows freezing points of  $\text{Ca Cl}_2$  solutions, plotted from a table given in Siebel's "Compend of Mechanical Refrigeration," which will be seen to produce a slightly erratic curve. The diagram also shows freezing points of such solutions determined for me by Mr. L. H. Flanders in one of the laboratories

of the Westinghouse Machine Company, the lowest point being at 2 degrees below zero Fahr., this being where the brine tank, in which test solutions were chilled, froze solid. The boiling points

of the same solutions were also determined, as shown in upper part of diagram.

I have added a curve of boiling points as given in "Dictionary of Solubilities," by A. M. Comely, which are slightly higher than those determined by Mr. Flanders, possibly due to errors of observation, as there was no effort to make extremely accurate determinations, it being unnecessary for the case in hand.

It will be noted that a solution of  $\text{CaCl}_2$  of about 1.20 specific gravity will not freeze until it has reached a temperature of about 15 degrees below zero Fahr., and that it boils at about 220 degrees Fahr. This solution should, therefore, be satisfactory in any reasonable climate. As to the question of injurious action of this solution on the metals with which it must come in contact, at the temperatures mentioned, I would say I now feel satisfied that there is no cause for apprehension, except possibly in the case of galvanized iron or of zinc. Careful experiments to determine this question were made for me by Mr. H. C. Babbitt, chemist at the laboratories of the East Pittsburg Gas Works, whose report in condensed form is to the effect that tests were





made to find the action of commercial calcium chloride upon soft steel, cast iron, sheet copper, sheet brass, galvanized iron and zinc. From 10 to 15 grammes of clippings of each metal were carefully weighed and kept at a temperature of practically 212 degrees Fahr., in a 50 per cent. solution for periods of from three to nine days, the solution being allowed to boil during part of that time. The results were as follows:

Steel, lost in weight.....	0.07 per cent.
Iron, lost in weight.....	0.09 per cent.
Copper, lost in weight.....	0.07 per cent.
Brass, lost in weight.....	0.001 per cent.
Galvanized iron, lost in weight....	0.16 per cent.
Zinc, lost in weight.....	0.77 per cent.

These figures are extremely small and probably at least partly due to the removal of a small amount of oxide or scale and possibly even dirt, excepting in the cases of galvanized iron and zinc, the latter of which is evidently attacked and therefore this metal and galvanized iron, on which the zinc would also be attacked, are not so well fitted for use in the circulating system of an automobile. The figures would indicate that the solution had no action whatever on brass and only a very slight and negligible action on other metals than zinc. They look larger in percentages than by actual weight. In each case the weight actually lost was in fractions of a milligramme, and would be considered within the limits of error.

Since writing the foregoing, I am in receipt of a letter, under date of January 17, 1902, from Mr. Elwood Haynes, of Kokomo, Ind., stating that he had made a similar test about a year ago with iron and copper, and that he had found, after ten hours boiling in a strong solution, a very slight loss in the case of the iron, which is ascribed to the removal of a small amount of scale; but the losses on both metals were practically nil and negligible. No tests on galvanized iron were made, but are now being carried out. Mr. Haynes further states that he has had this solution in a carriage for several months this winter, and has been unable to find any indications of injury. In my own carriage, in which no galvanized iron is used, I have had this solution for a month or more, and have had careful analyses made of small samples of the solution drawn each week, with no indications of the presence of any one of the metals included in the system.

In the case where serious injury was reported from the use of calcium chloride, I believe that this substance was in some way

substituted by some other, and that, in all probability, chloride of lime, whose chemical formula is  $\text{Ca O Cl}_2$ , was used. As the average automobilist has no facilities for determining specific gravities, and as making a percentage solution by weight of a deliquescent substance such as  $\text{Ca Cl}_2$ , is a very unreliable procedure, I append a curve (Fig. 2) showing parts of water to be added to one part of a saturated solution of  $\text{Ca Cl}_2$  to produce approximately, solutions of various specific gravities. To be fairly accurate, the saturated solution must have a temperature of 60 degrees Fahr., and it can best be made by dissolving as much of the salt in water, as the water (thoroughly stirred) will take up, with some crystals left undissolved when the solution is at 60 degrees. Roughly, to make one gallon of saturated solution will require about one-half gallon of water and eight pounds of the commercial calcium chloride having usually the chemical form of  $\text{Ca Cl} + 6\text{H}_2\text{O}$ . It happens that approximately the best solution for our purpose in this latitude (Pittsburg, Pa.) can be made by using one part saturated solution and one part water. All that is needed, therefore, is a measure of some kind and a fairly reliable thermometer. The solution will contain some insoluble impurities and should be carefully strained or filtered.

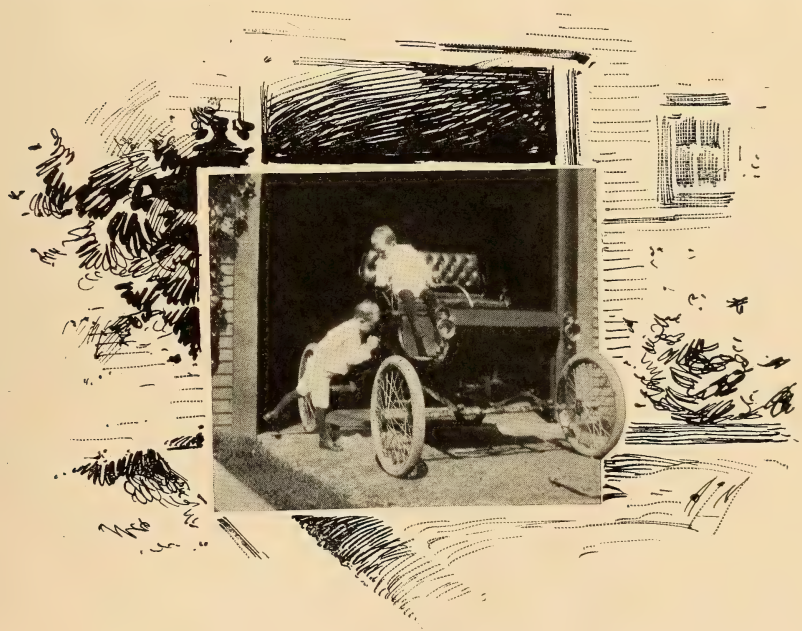
Some samples of calcium chloride contain more or less "hydrated water" than is given in the above formula, and therefore, the quantity of crystals per gallon of saturated solution may vary somewhat. In other latitudes a solution of higher or lower specific gravity may be advisable, and it is well to use as weak a solution as will be safe against freezing at the lowest temperatures to which the vehicle will be exposed. It is important that, when a solution of high specific gravity, such as proposed for this latitude, for instance, is used, it be not allowed to concentrate materially by evaporation, but that water be frequently added to the tank so as



CHLO RIDES

to keep the solution fairly normal, otherwise crystals may form in pipes and cause trouble. A good plan is to purchase a suitable hydrometer, and occasionally measure the specific gravity, but this is not really necessary.

For the use of anyone who may prefer glycerine, I append a diagram (Fig. 3) showing curves of freezing and boiling points of various volumetric percentage solutions. Probably the best glycerin solution to use in this climate is one made up of one part glycerine and one part water. Any losses from leakage should be made up by the addition of fresh solution in either case, while losses from evaporation are to be made up by adding water, as above



mentioned. It will probably occur to most users of acetylene lamps that the above calcium chloride solutions can be used in place of pure water, and winter troubles avoided.

### Salesmanship

"What is the key to success in selling automobiles?"

"The ability to make people pay."

"Pay for what they get?"

"No; pay for what you tell them they are getting."

## The Prank of Piute Bill

BY RANSOME V. STEADMAN

**W**E had gone to Montana hunting; we had hunted and found shelter. A roaring fire of fat pine, a lot of chairs, comfortable but not stylish, a disposition to yarn and to imbibe wisdom and other things made us a rest-loving aggregation. Temporarily all Montana game except poker was safe—at least from us.

"While the talk had stuck to horses the ex-Sheriff of the county had enjoyed the society of our party whose liquid hospitality he had been invited to share. When it took an up-to-date turn and switched to automobiles he began to be bored. The conversation wandered among the intricacies of explosion chambers, motors, mufflers, carburettors, gears and the like, and although the ex-Sheriff's glass was filled and emptied with the rest, a tired, far-away expression crept over his face and he spat at more frequent intervals into the sawdust box beneath the bar.

"The only contrivance of that kind that ever come through here," he reflectively said at length, "stirred things up considerable."

Whereupon the entire company, having expressed its interest by the usual invitation, the Sheriff removed the superfluous moisture from his sweeping mustache with the back of his hand and told how the first automobile came into that particular portion of Montana.

"'Twas a couple o' years ago last spring. A couple of fellers came through goin' to Chicago, at least that was their intention when they struck this camp. The boys aroun' here was naturally interested in the machine they had, rather big, clumsly lookin' rig at that, but it sure could throw dust. Some of the boys wanted t' race it first off with th' fastest horses in camp, but after the machine did the snake dance all the way around th' speediest broncho in th' bunch the gang natcher'llly wanted t' be put on to how it was done. Well, the chaps, bein' good natured, showed 'em where t' pull a handle t' set her goin', how t' let her out or check her in, 'n what an easy mouth she had.

"It panned out that t'was a dern fool trick t' put th' gang on, 'cause next mornin' when th' two fellers got up bright 'n early fer a long day's run; no machine! Mike that keeps th' hotel and a few of th' early birds was standin' lookin' at th' broken lock on th' door of th' little shack where it had been put overnight. A



couple o' wide tracks down th' trail made a clear showin' which way it went, but t'was hard guessin' how far along it'd got by that time.

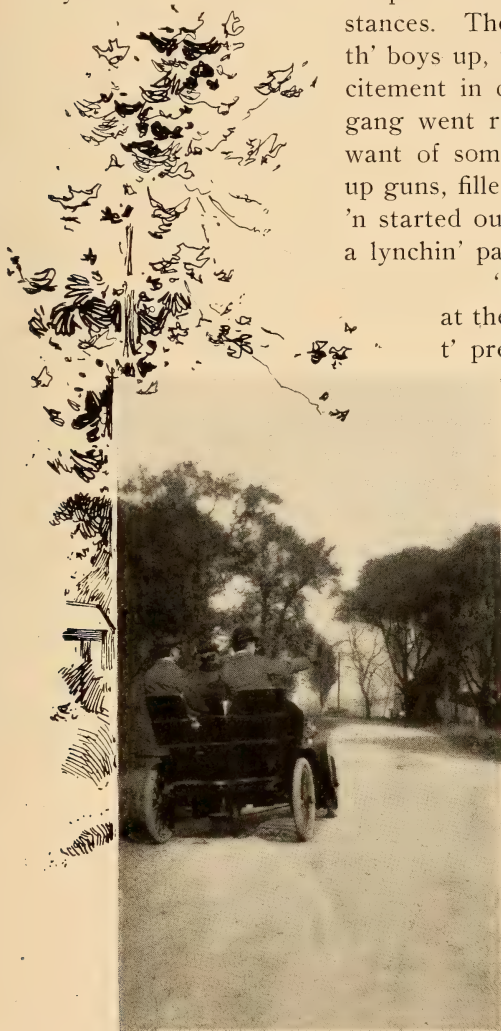
"Say! Those fellers was smooth-faced easy-lookin' chaps, but they sure did know how to express their feelin's under th' circumstances. Their remarks kinder worked th' boys up, too. Hadn't been any excitement in camp fer some time 'n th' gang went right off on a rampage fer want of somethin' better t' do, loaded up guns, filled up on whisky 'n big talk, 'n started out like all sin dead bent fer a lynchin' party.

"Bein' an officer of the law at the time I kep it on my mind t' preserve law 'n order 'n recover th' lost property.

I knew dern well though t'was no use buckin' against a lot of half-crazy galoots like them when they've got lickin' in 'em an' an idea in their heads so tight you couldn't chop it out with an axe. So off went th' whole bunch; me with 'em. Had t' laugh, too, t' think of catchin' that thing with hosses. They hed oil enough aboard, 'cordin' to th' owners, t' go fifty mile straight. I mentioned t' fact t' one of th' boys who was a little soberer than th' rest.

"That's all right,' sez he, 'how 'bout Goose Creek?'

"Gee sez I, 'that's so. Can't cross there with that. It's been runnin' high this week. No goin' cross country either on them spider wheels.'



"Pretty soon we begun t'take th' rise 'bout a mile this side o' the creek. On top of the knoll we could take a view clean to the bank. Way down there in the middle of the road was the machine, standing still just above where the road dips to the ford. Somebody was fussing round it. We knew it was the machine 'count of the sun dazzles shinin' on th' brass parts. Then th' boys let out a yell an' hit up th' pace for fair. A little nearer they began to shoot, more t' scare th' cuss than fer anythin' else. There was no chance t' hit him that far. But it sure did scare him. He jumps in, pulls th' levers 'n goes down slow over th' bank and out of sight. Then he was safe as a gopher in a hole fer th' time bein'.

"Everybody pulls up just out o' range, because you'll see there was no tellin' when lead might be comin' over th' bank in chunks. The game was sure treed, an' the boys went at him kinder careful, havin' him cinched as they tho't. We gets into th' bushes an' covers th' road an' th' ford with our guns. Horny Bill and Dave Smith sneaks down stream a little ways from th' bank 'n lays quiet. Then everybody waits a while cussin' a bit an' sweatin' like th' devil.

"Of a suddint up pops a Winchester over th' bank. He lets fly six times up th' road, hit 'er miss, an' by good luck it was miss. Then he dodges down.

"'Piute Bill!' we all yells as we sees his ugly jaw just over th' bank. So it was, the skunk. In a minute th' machine begins t' chug 'n gurgle down there. 'Twas queer if he was startin' up, fer th' creek was full high an' rushin' at a gait that'd give a strong hoss a big tustle t' git over. But Bill an' Dave from behind a tree down th' shore lets out a whoop an' begins shootin'. Then we jumps out t' see th' fun. The fool was sittin' in th' seat with a lariat round his waist, one end tied t' th' wagon body, an' steerin' her straight into deep water.

"Of course th' dern thing didn't float, but she was so heavy she run right down inter th' water an' disappeared under, runnin' along th' bottom. Bill he stays on top an' it pulls him along like a fish on a line. Funny? Lord, how we did howl! We was laughin' so hard an' most of us was so unsartin'-handed from th' booze that not a man could shoot straight enough t' pop th' floater. So there was th' machine getting away safe an' sound downstream an' takin' Piute away with it.

"Then Horny Bill steps out down th' bank an' th' gang quits shootin' t' see what was goin' t' happen next. Piute was quite a

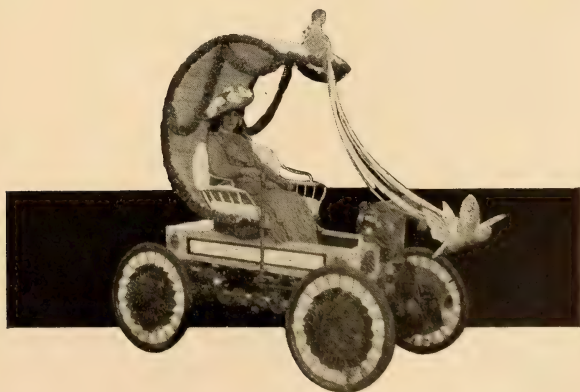
little ways from shore by this time an' pullin' away fast. Horny whips out his rope. He wasn't no slouch with it neither, an' though 'twas a long distance throw he lands th' noose square over Piute's head 'n shoulders. Pi tries t' fight it off, but 'twas no go.

"What with th' machine an' th' creek pullin' one way an' Horny an' Bill t'other t'was a tight squeeze fer ol' Pi an' no mistake. Th' air tires on th' machine, though, kinder lifted her a little off th' bottom, I suppose, an' th' steady pull swings her head in t' shore. Then they hauls Pi in, black in th' face an' dead gone from th' squeezin' an' bein' under water off an' on fer several minutes. Then comes th' machine climbin' slow up th' bank after Pi, all by itself an' sorter 'shamed like. The paint was most all off her from th' sand an' rock in the creek an' th' shirt an' th' hide was most all off Pi 'count of th' two ropes. Th' machine had barely 'nough spokes left t' hold 'er up.

"Well, say! The gang just lay down an' rolled over with joy an' gasped fer breath t' see th' pair of them. When they got through they was so weak they couldn't hev strung Pi up ef they'd wanted to. But they didn't. T'was too good a joke on Pi an' then they'd hed a lot more fun out of it than they would out of a bonny fidy lynchin' bee. Horny, he says, 'Shucks, y' can't hang a man fer stealin' a hossless waggin, can ye.' An' that settfed it.

"I can't explain how t'was she didn't explode or go out under water. Don't understand the innards of them things any way. Them fellers that owned it was sore, though. They stirred up trouble with th' Gov'nor 'n he had me fired fer not holdin' Pi. No more unthankful public jobs fer me."

And the ex-Sheriff accepted with alacrity another invitation to step up.



## The Old Guideboard

Where country roads diverge with graceful angle  
To skirt the wood or perfume laden field,  
Above the climbing vines and wild flowers tangle  
The gray old guidepost's fingers are revealed,  
Whose letters time's soft touch has half concealed.

To dusty wanderers it speaks in pity;  
It marks the traveler's nearing goal;  
It counts the many miles to the far city  
It names old towns where nature holds control,  
Or points the way where ocean surges roll.

And aged men, this thoroughfare frequenting,  
Bear semblance to this weatherbeaten sign;  
Time's odometerd miles they seem presenting;  
'Mid nature's bowers they point down life's decline;  
Their placid faces coming near divine.

Some tourist 'tis, observing, speaks most often,  
Of mellow marks upon the signboards,  
And tourists, too, first note the lines that soften  
The usage of a lifelong friend with grace,  
So subtly done we failed the change to trace.

Submitting to earth's edict of succession,  
This landmark gray will fall 'neath time's vast trend,  
And gentle, aged faces make confession  
These lost descents on toward life's ocean tend;  
Each calmly rests and waits its mission's end.







## Touring Notes Between Seasons

*By Robert Bruce*

**I**F our American climate does not justify the compliment that Charles

II bestowed on that of England—that it calls one out of doors more days in the year than any other—it is probably entitled to the distinction of calling oftener and with a louder voice. At least we do not have so many tame, dull days. On their own soil, Englishmen do not mind being out in the rain; they will suffer a great deal of inconvenience rather than omit their daily walk, drive or run. English roads, however, are of such a character that you can travel over them without being covered with mud in damp weather as is the case in this newer country. By comparison, the merry monarch's compliment may not mean as much as it seems.

From mid-April to and through October, hardly any climate in the world is equal, not to say superior, to our own. What a varied and shifting panorama! What unique and delicious days are scattered from the beginning to the end of our summer; and yet no week or month—scarcely any day—repeats the pleasures of any other. Each offers something peculiar to itself, and the man on the road comes to know and appreciate them all. Nevertheless, we are compelled to notice that the fleeting days are those of summer, really the longest of the year. It takes a long time, so to speak, to go from November to April or May; but all too soon we get back again to that point where only Indian summer may interfere for an extension of our automobiling weather. And even while we prepare to enjoy that respite to the utmost, lo! it is gone, and our

favorite highways and byways are covered with snow and ice. Then at least we are thrown back upon clubhouse topics, with our memories and notebooks of that which is past and anticipations of what another season is to bring to us.

#### WHERE DISTANCES ARE ELASTIC

If there is any one thing more than another which fools the locally unacquainted tourist, it is the distances in the country as given by the natives to whom inquiries are addressed along the way. A statute mile is supposed to be a mile the world over; but in reality it varies according to the ideas of the informant. Two automobilists, who were also fishermen at times, decided one day this last summer to make a detour over an apparently good stretch of road through a woodland to a locality where they had been told there was good trout fishing. It was all strange going, but straight-away and no danger of missing the way. The day was hot and close, and it was not their intention to make a fast trip. By and by they inquired of a native how far it was to the river.

"Well," was the reply, "I reckon if you go right along, it's about six miles, an' shady all the way."

Our tourists decided that six miles more of sun and shade was just what was wanted, and started off again at an easy pace. After they had gone on about an hour, one of them remarked that it was



the longest six miles he had ever traveled. For the next quarter hour they kept a sharp lookout for the bridge that marked the river-bend to the trout pools, but it didn't show up. That came in sight fully a half hour afterward. It was an honest difference of opinion between them whether they had traveled twelve miles or twenty. Coming upon a hotel they wanted to know, with some agitation, for what purpose the native had told them so far wrong. The genial boniface laughed.

"It's a good fifteen miles you've come," said he, "but he didn't intend to lie to you. It's their way of figuring it, not their perversity of spirit. After this you just bear in mind that a country mile is fearfully and wonderfully made, and it will save you a lot of trouble. People up here reckon distances solely by personal judgment. When they say a mile they want to be sure of good measure, and sometimes this "extra for luck" is as long or longer than the original.



WHEN THE LEAVES HAVE GONE

One of the tourists said he was willing to let it go at that, but the other wasn't going to let everyone else be fooled the same way. So he took a piece of paper and drew a scale to represent the local idea of a mile. A line six inches long stood for the commonly accepted statute mile, and to it he added another line eight or nine inches long, over which he wrote, "The rest of that mile." When he left he had the pleasure of seeing his diagram pinned up in the hotel office.

## SEASHORES AND MOUNTAINS

The beaches seem to be more popular than the mountains with the automobilists; yet I fancy that this is rather a matter of convenience than of choice. The beaches are near and the mountains far off. Families can make their homes all summer long on the nearby shores of the sounding sea, and the men at the head of them can come up in the morning and go down in the afternoon without letting go of their business. Of course that is not possible to do with the mountain country. Naturally and instinctively, if it were a matter of clear preference and not one of convenience, those who live as near the sea all the year round as New Yorkers, Philadelphians and Bostonians do would go more generally to the moun-



tains, or at any rate to the inland farm country. And by the same natural and instinctive preference, the inland people would seek the seashores.

It is a question of long standing whether the mountains or the seashores offer the largest attractions for people who can afford to choose between them. Oliver Wendell Holmes considered it in his philosophic way in the "Autocrat of the Breakfast Table." He said that the difference between the two is that "you can domesticate the mountains, but never the sea. You may have a hut, or know the owner of one, on the mountainside; you see a light half way up its ascent in the evening, and know there is a home in it and you might share it." On the other hand, he observes that "the sea remembers nothing. It is feline. It licks your feet; its huge flanks purr very pleasantly for you; but it will crack your bones and eat you for all that, and wipe the crimsoned foam from its jaws as if nothing had happened. The mountains give their lost children berries and water; the sea mocks their thirst and lets them die."

Dr. Holmes declined to say which he liked best, but it is evident that his larger love was for the mountains, for he winds up by saying: "The mountains have a grand, lovable tranquility; the sea has a fascinating, treacherous intelligence. \* \* \* The mountains dwarf mankind, and foreshorten the long procession of its generations. The sea drowns out humanity and time; it has no sympathy with either, for it belongs to eternity, and sings its monotonous song forever and ever."

#### AUTOMOBILING AND PHOTOGRAPHY

Do you ever take photographs on your tours? If not, you have missed one of the most interesting side-issues of the game. There is a solid amount of real pleasure derivable from the mere taking and preserving of views out on the road. Every photographer is more or less a nature student, and the enthusiastic automobilist is very apt to be of like mind. He is not a mere mechanical figure driving along only to run up the miles (as some imagine), but rather an observant traveler, ever watchful for some special piece of nature's handiwork to capture for his scrap-book or album.

The automobilist who is also a photographer is doubly blessed from the fact that his field of operations is practically unlimited. The pedestrian photographer, on the other hand, has a field confined to within comparatively few miles of the place where he happens to be. But the automobilist can store away his camera and tripod



(to say nothing of lesser paraphernalia) in a corner of the vehicle without the least trouble, and bring back many interesting souvenirs of his journeys. Nothing gives more pleasure to one inclined that way than a collection of pictures personally taken. They instantly recall a good time, and become entwined with pleasant memories—which money or hired effort of any kind cannot procure. With a camera near at hand, too, one is likely to observe things not other-



WHILE THE OWNERS ARE INSIDE

wise noted; and may often turn into a very enjoyable run that which would otherwise be more or less a monotonous trip.

#### ONE REASON FOR ROAD NEGLECT

For a generation the people of this country have been helping the railroads extend their lines in every direction. "Just get a railroad through my property and my fortune is made," has been the expression of more than one extensive landowner. And he has helped the steam lines with great benefit to himself and his com-

munity. But long ago he should have devised some means by which the public highways could have shared in the uplift, and made more useful to his everyday life than the railroads could possibly be.

Too much cannot be said against the backwardness of certain localities and the atrocious management of their local thoroughfares. One comes across, in turn, regions where he may speed his machine for miles upon perfect highways, succeeded by stretches of deep holes, ridges and ruts. The difference is frequently one solely of management—or perhaps rather of mismanagement. The chief need is for an intelligent public interest in these things, backed up by competent, painstaking work from the foundation to the surface.

The people—particularly well-known and influential automobilists, both severally and in their club affiliations—should scan the methods and results of the road contractors more closely, and especially take care that none but honest men have anything to do with awarding the work. In seeking these ends, it is a good thing to look to supervisors, aldermanic boards, county judges and other responsible officials for their interest and support. Men who have some practical knowledge of roadbuilding and maintenance, sound ideas of the relative value of soils and repairing means, and the proper methods of drainage, these are most of all in demand. Not every man who can make a furrow down a countryside is a road builder; nor can any fellow who can cut down a tree which shades a mud puddle necessarily carry through an important public work.

Many people who would not think of allowing anyone to appropriate their private property stay quietly by year after year and see their road taxes spent to no permanent advantage. Yet, how valuable to them would be a hard, smooth road running past their estates to the county-seat or the public market? The disease is plain to every traveler, and this is the cure: (1) competent and efficient roadbuilding and maintenance; (2) up-to-date methods and equipments, and (3) adaptation of all vehicles to road-making rather than to road-breaking.

#### ON STRANGE ROADS

The tourist without a fairly well-developed bump of locality is certain to come to grief at intervals. Even if he studies out the route most carefully before starting, sooner or later he comes to a fork in the road where he must trust to luck. There are, of course, no statistics as to how often he takes the one which will bring up at the wrong place.

Perhaps after he has traversed a few miles he meets a farmer

or comes upon a house and learns of the mistake through inquiry. Then he is as likely as not told of some short-cut to the right point, and his fate becomes very hard—at once. He strikes a wretched cross-road and flounders through sand and gravel, with perhaps a few trolley car trestles en route, until he vows to expurge the word "short-cut" from his vocabulary ever afterward.

Sometimes he follows a telegraph line, according to certain directions he has received, but, deep in the pleasures of automobiling, he forgets about this, and the first thing he knows the poles and wires have vanished from sight. Perhaps he determines to rely upon the sun to give him the general direction. But it is all the same; the points of the compass seem to shift in unaccountable fashion, and as time progresses he realizes that his destination is no nearer. Then he takes the rest of the day to get back where he started from, and puts out anew and better informed on the following morning.

It is interesting to note how an automobilist's importance grows with the distance he succeeds in getting from home with his own machine. There seems to be something like regular grades in it. One hundred miles away from home one gets his name in the printed lists of hotel arrivals; at five hundred miles he will be interviewed by the reporters; and at one thousand miles and upward his photograph and the picture of his machine are solicited for the local newspapers.

A locally acquainted man is really a much more interesting traveling companion than the very best printed guide and road book, especially when he takes pains to show you a thousand points of interest—little things that the guide books and maps ignore, or that you would not be likely to recognize of your own accord in the hurry of the moment. These things, the unexpected discoveries, the quaint surprises and interesting side-issues give to overland road travel its greatest charm.

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### Contemporary Literati

Literature was not infrequently the subject of their conversation.

"I understand," observed the Lay Figure one day, "that most stories are now written by a process virtually mechanical."

"Yes, the literary hack has been superseded by the literary automobile," hastily put in the one called the Lobster.

The others meanwhile took comfort in the thought that death, while loving the shining mark, is not indifferent to the easy mark.



## Converting a Scorcher

BY ANNETTE ANSTRUTHER

**I**T was in one of those old southern communities where, if the manner is slow, the blood can get very hot, that our Major lived, in a fine old house at the top of a slight rising of the ground, called by courtesy "Mansion Hill." A very sweeping, curved road led through the Major's grounds to the turnpike that connected Jewburg with Centerville, the next neighboring small town.

Jewburg was very progressive for its locality, Adams, "the owner of the general store," having a little motorette, "of an early make, somewhat speedy, but very noisy," to cover his wide area of trade with, and he ran it generally at a rate of speed that made the crackers jump, but Adams extremely happy. At no place did it please him quite so much "to make her hum" as past the park gates of the Major, for as the roads laid, he could see the Major starting out for his daily drive with his spirited pair of blacks long before the Major could see him, and it was great sport, as he rattled by, to see the old Major, struggling with his frightened beauties, "for it was a very sore spot with the Adamses that the Major's family had never called, although the Adamses' bank account quite equaled theirs if not more." With a few deep oaths the Major stood this daily annoyance, until he was convinced it was done with a purpose; then he stayed in one morning, driving over to Adams' store late in the afternoon. The motorette stood at the curb, with Adams relating to a few kindred spirits "how he had made the Major give up his morning drive," when that gentleman drew up. "Admiring your motor, Adams? She seems very speedy, if rather noisy."

"Yes sir, she can go," replied Adams, a little embarrassed.

"What make is she?" and while Adams fully explained every part, thinking the Major had been won over to his way of traveling, the Major got down and carefully examined the vehicle.

"I think I have it now, Adams, and ask you once more to stop scorching by my grounds."

Adams, mumbling a sort of apology, watched the Major drive away a little puzzled, for the Major's manner was new, and for a morning or two the scorching was not indulged in. In the meantime the Major had got in order one of his favorite pistols.

At last a morning came, when the temptation to make the Major jump could not be resisted. Away banged the auto and



wildly plunged the Major's horses, though the Major made no forcible remark, as usual. Adams laughed loud and long. He was a little startled, however, on nearing Centerville to find the Major following, "for the Major's temper was known." As he drew up at the first house, the Major drew up also, and, without a word, out came the pistol and a bullet crashed into that auto's heart, the next into its lungs and so on, until all the vital parts were all punctured and Adams had enjoyed the pleasure of waiting for one for himself during a few very trying moments. "I think I have covered all the vital parts you showed me the other day, Adams, but the next time you scorch by my gates I will aim at yours." When that auto came back from Baltimore with a very large bill for repairs, it was noted that Adams always drove with caution on the Centerville turnpike.

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## Some Foreign Ideas

THE new British automobile corps is tackling volunteering in quite a serious and businesslike manner. On its first appearance it set itself the rather high mark of endeavor, which consisted of an attempt to capture dummy despatches which were being carried by balloon. The supposition was that a balloon rising from a besieged city carried important despatches, which it was the automobilist's duty to capture.

The balloon car was occupied by the owner, Mr. Bucknall, of the Aero Club. Rising from the Crystal Palace, near London, the balloon was followed by about fifteen cars on various roads, all tending in a southeasterly direction. The pursuit was rendered more interesting by the balloon rising to a high altitude, and being above some clouds, it was for a time lost to view. The object in rising so high was to obtain an air current going in a different direction, and this was attained, for when the pursuers regained sight of the balloon, it was traveling at right angles to its former course. Ultimately it descended near Staplehurst, 35 miles from the start, the despatches being captured by Mr. J. Hutton on a 10 H. P. Panhard. These contests are to be continued.

Great preparation is already under way for the capture of the Gordon-Bennett trophy, and European automobilists who have the privilege of reading a certain American publication recognize with some trepidation its decision that next year the trophy must go to America. In the meantime, however, there are firms in Europe

who have determined to give the American cars to be sent over a good run for the victory.

The Cannstatt people are getting three Mercedes cars ready to represent Germany, and the French Automobile Club has already fixed that one of Mors cars and two of Panhards shall represent it. This, by the way, is a new departure for the A. C. F., as it has hitherto been content to decide on the drivers, and allow them to choose their own cars. Now the firms named will select the drivers. Britain also will make some effort to retain the trophy and there are already a sufficient number of racing Napiers being built for private owners to secure that that make at least shall be well tried before the contest comes off.

Everything therefore points to a splendid contest, and the work of the fifteen American firms, "anyone of which could build a car to win the cup," will require to be of the very highest class to succeed. Meanwhile the scene of the contest has yet to be decided, but the writer's opinion is that it will be found in France. Britain has, of course, the first say in the matter, and there are plenty of suitable roads, but an Act of Parliament would be necessary to secure their exclusive use for the time being, and public opinion in this country has not yet been educated up to conceding so much.

Alcohol continues to increase in favor in France, for, not only does its use appeal to the patriotism of Frenchmen, a strong factor, but it secures for its users the benignant approval of the Government, and when a question of road racing is under consideration, the approval of the administration weighs.

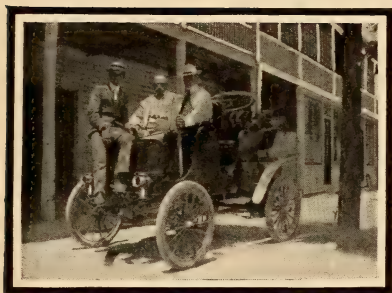
But a new phase of the question comes on the top in the discovery of a cheap method of preparing alcohol from carbide of calcium. In this process acetylene, prepared in the usual way, is converted into ethylene by passing through an alkaline mixture generating nascent hydrogen, such as zinc and ammonia solutions. When shaken with strong sulphuric acid the ethylene unites with it to form ethyl-sulphuric-acid, which, when mixed with a large proportion of water, and distilled, produces ethyl alcohol.

This product has hitherto been too costly to compete with alcohol produced from grain, fruit, or vegetables, but the new discovery is said to have the effect of reducing the cost considerably, and the agricultural societies are clamoring for an import duty on carbides sufficient to protect the home industry. The duty suggested in one case was equal to \$5 per 110 pounds, which, if imposed, will be a considerable addition to the price of carbide for lighting purposes.

A. F. S.

# Why Not to Florida?

BY CHARLES W. BIRCHWOOD



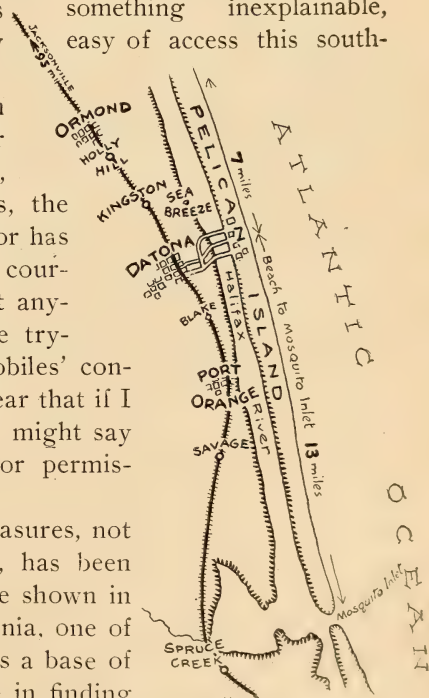
**W**HY, in winter, Florida is not the Mecca toward which all pleasure-loving automobilists turn, is a thing which I cannot understand. To anyone who, like myself, has enjoyed driving an automobile over the smooth beaches and fairly good roads with which Florida abounds, the refusal of

American automobilists to appreciate the attractiveness of this superb winter touring ground is something inexplicable, especially when you consider how easy of access this southern paradise is.

It is not my intention to claim nothing but splendid highways for the entire State of Florida, for, like her more pretentious sisters, the land of the orange and the alligator has her share of what no amount of courtesy or imagination could warrant anyone in calling "roads." Of these tryers of men's souls and of automobiles' construction, I shall say nothing for fear that if I attempted to do otherwise, what I might say would be neither parliamentary or permissible.

My own experience of the pleasures, not the penalties, of Florida touring, has been gained in that portion of the State shown in the map herewith. Taking Daytona, one of the prettiest places I have seen, as a base of operations, I have had no trouble in finding plenty of delightful country through which a Haynes-Apperson surrey carried me safely and swiftly.

Daytona is on the east coast of the peninsular, about 95 miles south of Jacksonville, and is easy of access by northern tourists,





who will find no trouble in having themselves and their carriages safely and pleasantly transported there. From Daytona good roads radiate and one can run to Ormond, 7 miles; Enterprise, 12 miles, and Deland, 30 miles, over as good country roads as you will find in almost any other State. I have carried five passengers in the vehicle you see in the accompanying illustrations to Deland in two hours and ten minutes, and we were not trying to make any records either. I know of a great many places in the North, too, which boast of their good country roads where I wouldn't care to risk my life in at-



tempting even so leisurely a performance as this. So much for the ordinary touring ground, but now for the extraordinary one.

Passing through the famous City Beautiful, the founder of which has lately become a somewhat noted personage for reasons which need no recounting here, over a road which needs no improving, a ride of two and one-half miles lands you via the north trail on the famous beach.

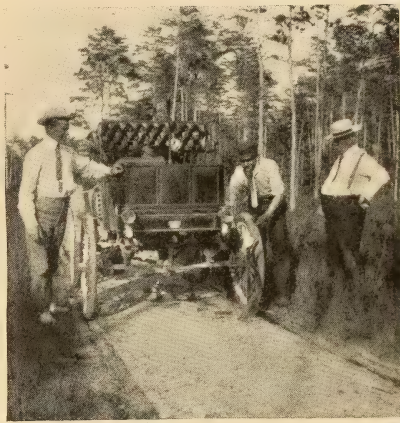
Stretching away for more than thirteen miles, and with a width of never less than two hundred feet, is a dead level expanse of beach as hard as a piece of flint and as smooth as a billiard table. There are no people, police, or prohibitions of any kind to prevent you doing that thirteen miles just as fast as the Lord and the capacity



of your vehicle will permit. It is worth going many miles further than Florida is to take possession of this magnificent stretch of natural highway, and for once to enjoy the pleasure of turning yourself loose, without a feeling of apprehension that every moment is bringing you nearer to a judge, a jail, or a jury.

For four hours each day this beach is absolutely perfect. Between times the action of the tides interferes somewhat with the automobilist's enjoyment, but the interference is by no means great enough to prevent his using the beach for driving over. Nature has done her share, and man has not failed to do his, with the result that the automobilist finds upon this famous beach more than one hotel which is as fine in its way as the beach is in its.

Why it has remained for me to call the attention of my fellow motor vehiclist to this ideal spot for either a leisurely loaf or for a midwinter speed contest, at which I am sure every record of the world from one mile to ten could be broken, I am at a loss to understand. Now that I have done so, I hope the coming winter will see others enjoying Florida's roads as much as it has been my good fortune to.



### Up Against the Liquor Traffic

"Is that report true about Willie Rushmore joining the Prohibitionists?"

"No; I think it started from his attempt to smash a beer wagon with that big Panaracque he goes scorching around town in."

## How the Biter Was Bitten

BY A. CONVETH

**I** HAVE always entertained a holy horror of horses and regard the uncertainty of their tempers and habits with nervous dread.

This does not arise from natural timidity, but I think it is due to the fact that an early experience with a horse had left a nervous prejudice in my inner consciousness.

During my tender youth I went to stay for a time on a farm, and one of the first treats bestowed upon me was a ride on a horse. The animal was led by a man riding on another horse, and all I had to do was to sit quietly and cling to the mane. Among my treasured possessions at that time was a match box with a mirror lid. When I became familiar with the movement of the horse, I ventured to draw the box from my pocket. As I did so the sun glittered upon the shining surface and a glare of strange light flashed out. The horse seemed to think that an electric light had taken possession of his back and resented the liberty. He suddenly stood on his hind legs and then as suddenly changed to the front ones. I received an impression that I had started on a flight to the moon, but the return to earth crushed out the illusion painfully. The effects kept me imprisoned in a bedroom for a month and spoiled my summer's holidays.

I have been astride of a horse since that time, but never for pleasure. While riding behind one, except in a bobtail car, I am always watching for a soft place to jump when the runaway begins.

Imbued with these sentiments and prejudices, it was natural that I took to mechanical means of road locomotion. I delighted in the bicycle and gained a reputation for speed that proved there was no timidity connected with my antipathy to horses. But the bicycle had its day. When the automobile began to appear, I recognized in it a method of traversing our highways and byways with dignity and ease.

I was interested from the beginning and studied the growth of the motor car with keen interest. Its elementary weaknesses and shortcomings were even more serious than those that had so long delayed the progress of the bicycle into popularity.

Various friends had bought automobiles and I was privileged to ride with them occasionally and not infrequently to finish the trip by walking home or taking the trolley. Still I was not discouraged. A motor that would mote as regularly as a loco-

tive was coming, and I was to lose no time in becoming the proud possessor of that vehicle.

I fell into the way of haunting automobile storage places, garages and show rooms, and I found that some owners had employed experts to rectify the original defects of their machines and that they were able to make runs with very few failures. Then the bright idea entered my head that I might do better by purchasing a good second-hand automobile that had gone through the regenerating process.

The idea came like a revelation and I acted upon it at once.

I advertised in one of the automobile papers, stating that I wanted a second-hand motor carriage in good working order, giv-



INVERNESS CASTLE

ing some outlines of weight and price. Several replies were received and the most satisfactory one seemed to be from Mr. Benjamin, of Fernandina, Fla. Mr. Benjamin wrote that he was willing to dispose of a gasolene machine that had been very little used and was in first class condition in every respect. A photograph of the car was received and inquiries were made about Mr. Benjamin's financial standing. I learned he was a man of substance. Everything being apparently satisfactory, I sent a check for \$1,000 and directed that the automobile be shipped to Hoboken, where I resided.

Waiting for the arrival of that machine was one of the most



severe tests ever imposed upon my patience. The vendor appeared to be in no hurry to deliver the goods and railroad transport from the South was slow. But it came at last and as soon as it was delivered to the caretaker, I invited some friends to witness the glory of the start and we intended making a run through New Jersey, which was to close with a modest banquet.

How can I describe my feelings when the crate and covering were removed? Our eyes beheld a dilapidated wreck, a collection of tattered, moth-eaten cushions, shrunk woodwork with the paint worn off by weather action, rust-eaten iron work and a general appearance of hopeless decay. An expert called in to examine the motor declared that it was an inferior machine originally, ruined by reckless usage and neglect. After considerable work being expended upon it, the carriage was made to go erratically; but its trips gave too much occasion for walking and trolley rides to reach home. It became the ridicule of the small boy and the hackmen, so I gave it up as an imposition too annoying to be endured with the little fortitude I had left.

Then I determined to have revenge. I would sue Mr. Benjamin for imposition and have my thousand dollars returned. My lawyer dissuaded me from this course, saying that Florida was a long way from New Jersey, and suggesting that a Fernandina jury might not look favorably upon the claims of a New Jersey man.

I took occasion to write Mr. Benjamin my views of the transaction, and he no doubt found the language "painful and free."

The incident seemed closed, when one day it occurred to me that a man who once had the automobile fever was liable to be stricken with it again. I began watching the automobile papers for an inquiry from Fernandina, and sure enough it came within a few months. A first class automobile was wanted and there was no difficulty in identifying Mr. Benjamin as the would-be buyer. I prevailed upon a dealer to negotiate a sale by letter. After the sale was closed and the check received, my lawyer got the dealer to wire, asking Mr. Benjamin if the automobile was for himself. On a reply in the affirmative being received, my lawyer put an attachment upon the automobile and intimated to Mr. Benjamin that his old machine was ready to be returned, and that he would have to appeal to a New York court to have the attachment on the new one removed.

Mr. Benjamin wanted nothing to do with the courts, so he came to New York and settled.





## The Art of Speed Making

BY GEORGE E. WALSH

**U**NDER proper conditions and regulations, automobile racing is just as legitimate as horse racing, or any other form of speed contest, and it may be said that there are few sports which yield the participant more actual exhilarating pleasure than flying over a smooth, straight road or track in a machine built for this purpose. Horse racing is tame in comparison, as for that matter is any other means of locomotion, except possibly riding on a locomotive when trying to make up lost time in carrying the United States mails between two important cities. One might, indeed, find much in a ride of the latter kind to help him in preparing for racing an automobile.

The giant locomotive which is to make sixty to ninety miles an hour, with a train of mail and passenger cars trailing behind it, is the very personification of power and tremendous speed producing possibilities. But, as it stands at the station softly puffing and panting with suppressed emotion, one cannot realize the great amount of preparation made beforehand to get the big fellow in perfect condition for his race. For a full hour before the engine was turned over to the engineer, two of the best mechanics of the railroad company have been examining and testing every part of the huge machine. Every wheel, driving rod, nut, bolt, brace and lever has been examined to see if there was the slightest sign of imperfection. The rigid test has been carried so far as to have many of the nuts and bolts unscrewed and drawn to see if they were in good working order. After this inspection, the mechanics oiled every part thoroughly and filled the cups with sufficient lubricating material to carry the engine on her trip.

The engine was then run out of the yard, and turned over to the engineer and fireman; but these two men, instead of accepting the word of the yard inspectors, at once proceed to again go over all the important parts of the engine to verify the first examina-

tion. The engineer tests his steam valves and gauges, and runs the engine up and down the track, applying the brakes to see if all is well.

Then the journey begins. At first, the engine glides slowly and smoothly out of the yard and station, increasing its speed as it slides along without mishap. The engineer finds everything in working order, and he slowly coaxes his steed forward. Coaxing is probably the best word to apply to this, for an engineer treats his engine as an experienced driver treats his horse. A machine, in fact, requires delicate and appreciative handling to make it do its best. Jerk and start and stop it suddenly, and the chances are that something will give way, and while an accident may not occur, the best speed of the machine cannot possibly be obtained under such conditions.

The engineer rushes up-grade by firmly and persistently increasing the steam power, and down-grade he eases up the engine so that chains will not rattle, and the machinery urged onward by gravity will not get disjointed. It takes an expert engineer to do this well, and as a result the trip is made without mishap. From his position in the cab the engineer sees and knows nothing else except the immediate work on hand. He does not hear you speak to him; he pays no attention to novel sights on either side of the road. He is an intelligent machine, keyed to his highest point of efficiency, ready to respond promptly to signals, and to do the right thing in an emergency.

In automobile racing, either on a level, lonely, country road, where there is no danger of frightening horses or meeting pedestrians, the operator should copy closely after the engineer of one of our big railroads. He should know beforehand that every part of the machine is in perfect order. If the vehicle has not been tested and examined that day, it is dangerous to attempt high speed. Assured of its perfect condition, however, he should next know how to manipulate its machinery, so that no parts of it will be strained. The sudden turning on of power, or throwing on the heavy brakes without emergency cause, racks a machine terribly, and generally disarranges the smooth working parts somewhere. If the driver of a motor vehicle does not know how to ease up the machine in running down hill, and how to increase its power gradually in racing up an incline, he is not in a position to race, or even to speed his machine on the country road.

Manipulators of automobiles in our cities exhibit an amount

of ignorance and lack of skill that is heartrending. They attempt the spectacular so often that the machines are reduced to scrap iron all too soon. It may be showy riding to run the machine rapidly through an intricate network of carriages and pedestrians, and drive on the brake every few minutes to check its headway. Such a jerky method of proceeding is hard on the machine, unpleasant for those out for a ride and discreditable to the operator. It betrays his ignorance just as much as the jerky movement of the street electric car indicates that a new motorman is being broken in. The passengers soon realize that their lives are being intrusted to the incompetent hands of a beginner. The expert runs the car with the least amount of jerking and sudden stopping.

But to return to the racing automobile. Let us select a smooth country road where there is little or no driving or walking, and try our speed on it. There are many such stretches of a mile or two in the country where one can positively do little or no injury to the welfare or rights of others.

It is a pleasure to find such a place and to run back over it several times to test the powers of the machine. One should not try high speed over a strange road until after passing over it at least once. Many a road is very deceptive, showing ahead an apparently smooth, uniform surface, but on closer inspection revealing deep cuts and hollows, which are sufficient to wreck any machine running at high speed. But if one passes over the road, and finds it perfectly adapted to fast work, it will pay him to turn back, and run at a good speed, and then on the next trip over it let out the machine to its full power.

There is positive exhilaration in such a ride. You turn the power on slowly but surely, increasing the speed as fast as the machine is capable of developing it without straining. No vehicle can possibly utilize half its power when it is turned on suddenly. It is better to force the speed gradually, without once overstraining a single rod or piston. When under half speed the full power can be turned on, and the machine will climb rapidly upward in the swiftness of its travel until it reaches the maximum of its pace. Now the full employment of all the operator's faculties are demanded. He is inviting certain dangers which can only be averted by skilful handling and accurate decisions of judgment.

Nothing in all the different departments of outdoor sports trains the faculties to more acute activity than automobile racing does. The ground is fairly rising up ahead and dashing directly at

you in a most bewildering way. It is a sensation that appals many novices, and well it might. There is a species of automobile stage fright which attacks some, and fairly demoralizes them. Unaccustomed to the speed which they have almost unconsciously summoned their steed to exhibit, they become fascinated and demoralized by the swift movement of objects around. It is necessary to watch the narrow strip of roadway ahead, and this flashing up and past the eyes almost paralyzes the optic nerve. The deception which may follow causes one to lose control of the nerves. A slight variation may throw the car off the road and smash it to pieces.

In order to avoid this species of madness one must accustom himself to high speed gradually; first, in a car guided by an experienced chauffeur, and then alone with the whole guidance of the machine under his care. One cannot simply ride a number of times with an expert guiding the flying vehicle, and then expect to be able to do the same thing himself. The novice may think he has grown accustomed to high speed, but suddenly in the very midst of the blinding gait he may become conscious of the fact that everything depends upon his gasoline power of control and guidance. This thought, for the first time, occurring, has caused a panicky feeling in the mind of more than one operator, and the resulting demoralization of the nerves and brain has been the cause of the accident which followed.

On the other hand, the driver who has trained his nerves and eyes to a keen appreciation of the dangers of great speed, finds the highest type of pleasure in speeding his machine, guiding it with unerring accuracy straight down the road, and making a line so unswerving that a bee in flying could not much straighter go. His nerves and muscles have learned to respond promptly and intelligently to the slightest deviation and change in the machine's movements. There is a sympathetic feeling between the flying vehicle and its human director which is difficult to explain, but is readily appreciated by an expert. Almost intuitively the operator knows when anything is wrong, or when the roadway ahead offers obstacles. Likewise there is a subconsciousness which seems to know instantly how to act in any emergency. Should some obstacle appear in the road or a difficulty of one sort or another unexpectedly intrude, the trained senses of the expert would instantly know how best to meet them, and how to avert an accident. The training



of the eye and hands in this way is not the least of the advantages resulting from running an automobile at high speed.

There is no blindness or lack of appreciation of dangers by one who has rightly learned the speed-making art. To the observer or uninitiated such high speed seems reckless, and a direct invitation to accident and sudden death. But such may not be the case at all. The engineer speeding along at sixty miles an hour is really in less danger than another who takes his slow local along at twenty miles an hour. Why? Because the latter has not been so careful in inspecting his machine; he has not prepared himself for risks, and so does not act so promptly in emergencies, and usually his engine is far from being of the best. The high speed railroad trains have far fewer accidents than the locals, for the foregoing and similar reasons. Likewise a high-grade, powerful automobile, built for racing, can be run at forty miles an hour under the skilful guidance of an expert on a road adapted to speeding without inviting nearly as much risk as the inexperienced driver invites when running an inferior vehicle at ten or fifteen miles an hour. The inexperienced driver may at any moment be confronted by dangers and accidents, and if he is unprepared to deal with them promptly and intelligently, he is likely to precipitate a catastrophe.

In the present condition of automobiling for pleasure and racing, there is entirely too reckless speeding by novices, which should be checked, since in nearly all cases where accidents happen they are due to inexperience and foolish ignorance on the part of those in control of the vehicle. Skill in any line of work or pleasure breeds carefulness. The best operators are the ones to take the least unnecessary risks. Yet, when the emergency presents itself, they are equal to the occasion. They are well trained then to take the necessary risk, and to come out victorious. There is something mentally stimulating in skilfully meeting and overcoming dangers, and the expert driver of an automobile who does this daily receives an education which makes the faculties stronger and more sensitive to impressions.

There are few drivers of experience who have not at some time when in control of an automobile experienced narrow escapes from accidents which they ever afterward remember vividly, and even shudder sometimes at the remembrance. Nevertheless, the intelligent management of the vehicle which carried them through the ordeal unscathed, is a source of satisfaction which they cannot forget. It has been one of the stepping stones in their progress

which they could not well dispense with. Indeed, all achievements must be paid for by some hard work, narrow escapes, or painful experiences. But the man who guides an automobile must learn his lessons with as little danger and discomfort to others as possible. To do this successfully he must begin cautiously, and not venture beyond his capabilities until his lesson has well been learned and severely practised.

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## Story of Number 134

(Begun in September Issue)

BY NED WILLSON

**S**OME three days after the accident in the barn, there appeared at the Jackson House in Cinderella, a tall, slender individual, with sunset hair, somewhat flattened cheeks and a sad expression of countenance which betokened a dread of something which was likely to happen any minute. He inscribed his name upon the register as "John C. Nichols, Automobile Expert," and was assigned to the best room in the house, which as a special inducement boasted a fire escape landing, capable of being used as a balcony. After disposing of a hearty breakfast of ham and eggs, twelve-cent coffee and sour cream, he retired to his room and emerged shortly, dressed in leather from head to foot, while perched jauntily on the peak of his cap was a pair of the most hideous automobile goggles which could probably be found anywhere. Addressing the porter, he made inquiry, "Could you kindly tell me where Mr. Sirrus P. Johnson lives?"

"Mr. Cyrus P. Johnson (accent on the Cy) lives up the street, the other side of Bull's blacksmith shop," replied the porter.

"Where's Bull's blacksmith shop?"

"Why, don't you know where Bull's shop is?"

"No; what the Dickens d'ye spose I'd ask for, if I knew?"

"Well, it's just a block this side of Jones's drug store," answered the porter.

"Oh, chuck it," was the impatient rejoinder. "Take this grip and show me the way. I don't know nothing about your blamed old town."

"Cost you a dime to make that trip, sir," said the porter, looking at the expert thoughtfully.

"Well, here's your dime, pay you in advance," and throwing him a ten-cent piece the man in leather forged on ahead up through

the one street of the town. It did not take him long to get his bearings as the blacksmith shop and the drug store were within a stone's throw of the hotel, and in fact the whole length of the main street could have been traversed by a good automobile between chugs. The porter, after trying vainly to rescue the dime from where it had rolled behind a desk in the corner, moodily brought up the rear grumbling audibly at the weight of the valise, which contained considerable metal in the form of tools.

Mr. Johnson was waiting expectantly and was standing in the door of his barn, with the machine pushed out where it would get the best light. The old radiator was soon replaced by a new one, which had arrived the day before, and during the replacement the conversation naturally turned to the accident and other features of automobiling. "Nice barn you've got here," remarked the expert casually in the course of the conversation. "My father's barn burned down in Xenia a while ago; burned my horse and three sets of harness; couldn't get 'em out anyway. Fire was pretty well along before anybody discovered it."

"How did it catch fire, incendiary?" asked Mr. Johnson.

"No sir, it was the longest time before we found out how that barn did catch fire. We figured this way and we figured that, and finally came to the conclusion that it was nothing more or less than a case of contagious congestion."

"Whopee! That's a good one! First time I ever heard of a barn having congestion, anyways, congestion that was contagious."

"Well, that's what Tim Oliver said it was, and he knows a good lot about fires and things of that kind; been to college and studied engineering and all that."

"Guess you mean 'spontaneous combustion,' don't you?"

"Well, maybe that was it, but what's the difference anyway? It's some darn fool thing I never heard of before."

"Say, did you ever meet that agent down in the city that I bought the rig of?"

"Yes; he was up to the factory for about a week; made out he knew all about automobiles. Used to tell so many lies that the manager called him the 'Chief Procrastinator,' and I guess the name will stick to him at the factory because they never call him anything else now."

The word was a new one to the oil man, so he wrote it down in order to consult his Webster at the next opportunity.

"Say, what's the biggest automobile you ever saw?" asked Mr.

Johnson. "I saw some big racing machines down in the city, but none of them was big enough to carry over four persons. Do you ever make automobile busses and such things as that?"

"No; the biggest thing I ever saw was a tally-ho that came through the town the other day. It had three big seats and a fellow up in front was blowing a long horn something like a trombone, only not so crooked."

"Cally-ho, cally-ho," repeated the oil man, "that don't sound just like the name; are you sure that's what they call them?"

"Why sure. Guess I know what a cally-ho is."

But the other was still in doubt, and made a further memorandum for the dictionary. Just then a red-necked farmer boy rode up on a spavined bay mule. After the usual "howdy," the oil man asked him, "What you lookin' for Bill, an automobile?"

"Don't know as I ever seen one."

"Well, you better look out, there's one broke loose here in the barn," and with a wink to the expert, who had just started the engine, he turned again to the boy and continued: "You better look out; she's snortin' and puffin' like a mad bull," and just then he jumped into the seat and whispering to the operator to "make her snort," the latter threw out the switch and immediately throwing it in again secured several loud muffler explosions. The mule, which up to this time had shown no signs of life, threw its ears forward and with a snort cleared a six-rail fence, leaving the witless farmer boy sprawling on the ground. He scrambled to his feet, and with a face like a snowbank, flew up the road crying, "Help! help! The devil's comin' sure!"

The pair of mischief-makers were so convulsed with laughter that the automobile very nearly followed the course of the mule, and it was only by a quick turn of the wheel that the chauffeur avoided an accident.

"Let's see you make her hum," said the oil man, as they started up the road. "You can't go too fast to suit me." Nothing loath, the operator threw in the high gear, and with the throttle wide open and the spark adjuster at the last notch they tore up the road at a terrific pace. The thoroughfare they had chosen was a hilly one, and Mr. Johnson was more than satisfied when the reckless operator rushed down the grades without slacking speed, except when he came to a turn. The second speed was called into requisition frequently in order to climb the hills, and for a space of some seven or eight miles it was used as much as



the high gear. However, the hills were finally passed and a good stretch of level road lay before them. They had just got up to a good speed when they saw coming toward them a man and woman in a buggy, the man waving frantically for the automobilists to stop. The red-haired expert throttled his engine down so much that it stopped entirely. The horse by this time was prancing and backing, and threatened to overturn the occupants of the buggy in a ditch by the side of the road. Nichols jumped from the automobile and caught the horse by the bridle. Stroking him gently on the nose, he led him by, the occupants of the buggy in the meantime not knowing whether to thank him or to abuse him for daring to use an automobile on the highway.

Returning to the machine the expert started the engine and threw in the gear and then the engine clutch. Immediately there was a chug and a grunt, and the engine stopped as if it had run against something. Expressing his opinion of the circumstance in words which would not appear well in type, he started the engine and threw in the clutch again with a similar result. With a few more unprintable remarks he sat down on the step, and, removing his cap, thoughtfully rubbed his auburn hair.

"Well, now, what's broke?" asked the oil man.

"Damfino," was the reply, "unless she's got a hot box," and with a sigh of resignation the expert opened his bag of tools and started to investigate. He knew there was nothing the matter with the engine, as it had started promptly both times, so he examined the transmission. On removing the top of the transmission case, he found that the second speed gear had lost its set screw, and that the set screw was lodged in between the teeth of the two gears which mesh for the second speed. It had apparently just found its way to its position. As the gears were of steel it had simply bent them. The set screw, however, was too badly bruised up to be of further service. It was also necessary to file the teeth of the gears so that they would run.

On examining the key the expert found that it had been driven in tightly and it was apparent that the set screw was unnecessary, as there was no danger of end motion on the shaft, since it was the other gear that was moveable. He found the transmission case had very little oil, and having some cup grease with him he daubed the gears with that, and then poured some oil in the bottom of the case, so the gears would splash it about. "Them's nice bearings," he remarked to the oil man as he was putting the case together.

"Them's what they call Foster bronze. Tell ye what, if you get that in the bearing there's no wear out to it."

"Foster, Foster—seems to me I heard of something like that. No, that was phosphor-bronze, is that anything like it?"

"Oh, yes, that's what I mean, phosphor-bronze."

Just then there was the toot of an automobile horn and a big surrey with four passengers came sailing down the road, the driver calling out as they went by and asking if they needed assistance, and Nichols, shaking his head, they went on their way amid a cloud of dust. "What make of carriage is that?" asked the oil man, casually.

"Oh, that's a James-Apperson carriage; they're great. Jump in and we'll see if we can catch 'em."

Getting a good start this time, they were soon in full chase, and seemingly gaining slowly on the car ahead. But appearances are often deceitful.

### Rus in Urbe

The rosebud bends to the balmy breeze—

Bang, bang—bang, bang!—

And pouts her lips to the kissing bees—

Hoi! Go ahead there! Whang!

The pale, clear star, chaste and cool—

Clang—clang!—Clingity—clang!—

Kisses herself in the mirror-pool—

Fsshssshssss-bom! Kerrackety—SPANG!

Softly the silvery twilight falls—

Whack—clang! Thwack!—clang!—

And the moon steals into the silent halls

Of—Toot, toot! Hoi!

Whoy! What's the matter?

Hullo! Toy-hoi! Yow! Crash!

Jang, jang—bang, bang!

Fzzzzzz! Bing, bang!

Rickety-clickety jang!

Jang, jang—bang, bang!

Bang—bangity bang!—

MEMORANDUM.—Finish this when that idiot out there on the road in front of my house who is now trying to make temporary repairs on a motor vehicle succeeds sufficiently for it to take him out of my hearing.



IN making the tour we selected the most attractive and interesting scenes we could find for a day's run; but our objective point was the region where the forefathers of Robert Burns had lived and fought and toiled and died for many generations. The route out of Drumtochty glen brought us past several romantic looking villages and hamlets and through a beautifully diversified country, amidst finely cultivated farms traversed by roads that would delight the soul of every automobilist.

We had been following a route celebrated almost from the time of the Roman invasion, and no doubt partly made by those enterprising pioneers of civilization. Many great personages, clattering armies and imposing cavalcades had traversed these highways intent on intimidation, peace or war, mostly the latter. It was the favorite artery between England and the north of Scotland and was much traveled, especially in the fearful times that preceded the union of the crowns of England and Scotland.

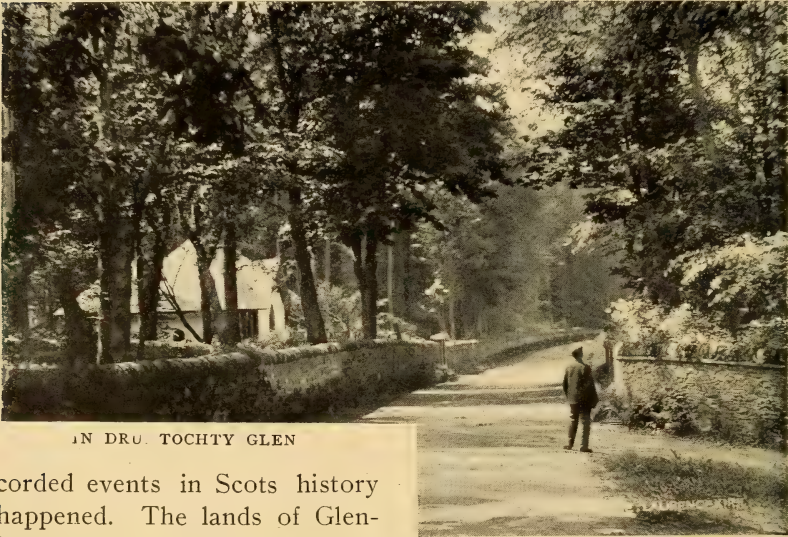
Through these woods, moors and glens once marched a small army that brought deep woe to Scotland, for it was escorting King Edward I. of England, at a time when the liberties of Scotland were more nearly crushed out by the power of England than they ever were afterward. That arrogant monarch made a tour through the greater part of Scotland, receiving the homage of the obsequious barons and of the gentry and clergy, but he received nothing but curses from the common people, who a few years afterward formed the sinews of war that vanquished his son's army at the battle of Bannockburn.

Emerging from Drumtochty we pass through the village of Auchinblae, built on a steep hillside, but picturesque withal. Here



on a hillock, about sixty feet high, stands the parish church of Fordoun, where traces are still pointed out of the shrine of St. Palladius, said to have been built by monks from Ireland in the fifth century. It is certain that the place was in great odor of sanctity as early as the tenth century. It is said that King Kenneth III. was on a pilgrimage to the shrine of St. Palladino when he was murdered by Queen Finella.

Arrived at Glenbervie, another wooded valley, where a fine trout stream is found passing down from the Grampian Hills beyond, we are in the heart of the real Land of Burns and in a district studded over with buildings and places where many re-



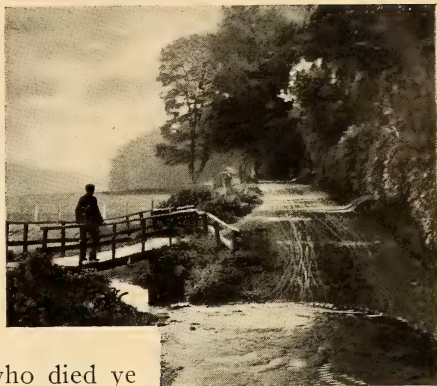
IN DRU. TOCHTY GLEN

corded events in Scots history happened. The lands of Glenbervie long belonged to the Douglasses. A son of the Sixth Earl of Angus, nicknamed Archibald-Bell-the-Cat was the first Douglas to hold these estates, and the family must have been proud of the nickname given to their ancestor, for it is recorded in a Latin inscription in a wall of the church now in ruins. The origin of the story was that the turbulent nobles of Scotland, whose principal pastimes were quarreling and fighting, became jealous of plebeian favorites of King James. The nobles were anxious to hang the favorites, but in a meeting held to take action the question arose who will bell the cat? I shall bell the cat exclaimed Archibald, Earl of Angus, and under his lead the favorites were hanged.



In the churchyard shown there were several tombstones indicating the resting places of several Burnes's who were ancestors of the poet, Robert Burns. On one of the monuments, the horizontal tomb to the right, is the inscription "Here lyes the body of James Burnes, who was Tenant in Brawlinuir, who died ye 23 of January, 1743, Aged 87 years." There is not the least doubt that the poet's genealogy can be traced directly from the tenant of that tomb. To use the scriptural method James begat Robert, Robert begat William and William begat Robert; the poet, and one of the most celebrated men Scotland has produced. The James Burnes of this tombstone was the great grandfather of the poet.

This district of the Mearns is full of names that belonged to the Burnes family and they were variously spelled, comprising



FORD AT THE BURN



THE GLENBERRIE CHURCHYARD—WHERE BURNS' FOREFATHERS REST

Burnas, Burnis, Burnasse, Burness, etc. The origination of the Scots Burnes's came to the district probably in the twelfth century at the invitation of King David I., who had been an English baron, and brought many English families with him for the purpose, no doubt, of exerting a refining influence of the Scots. Robert Burns and his brothers changed their names from Burnes to Burns, which was giving a plebeian turn to a name which for many generations had been held by men of high degree. There were several noblemen named Burnes in Kent after the Norman conquest and several of that name are mentioned as holding high estates in different parts of England and France.

Those who settled in the Mearns were at first landowners and then they became farmers and cottars. Unfortunate political affiliations no doubt pulled down the condition of the family. Of course, they took part in most of the conflicts that touched the Mearns. They appeared to be supporters and followers of the Keiths, who were Earl Marischals of Scotland. These Keiths were devoted to the Stewart kings and they took an active part in several Jacobite rebellions, which brought them to poverty and entailed ruin upon most of their followers.

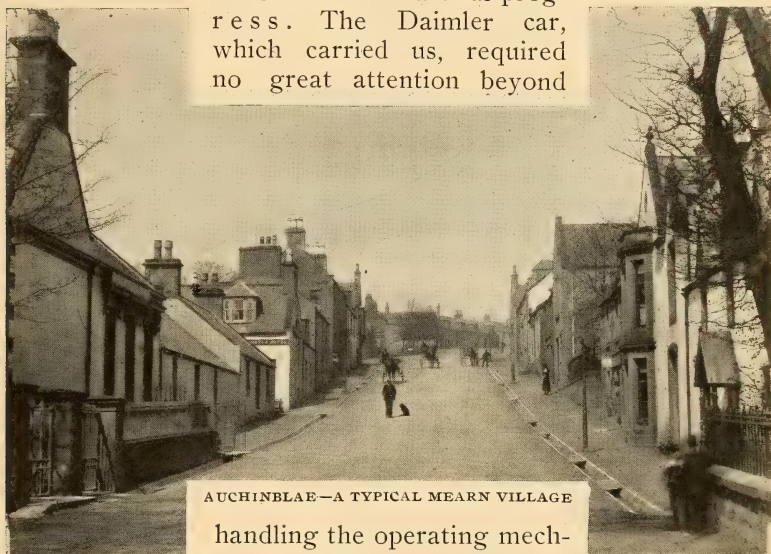
Writing of the misfortunes that brought down his father to the condition of a gardener, Robert Burns says: "My ancestors rented lands of the noble Keiths Marischal, and had the honor of sharing their fate. I mention this because it threw my father upon the world at large. They followed boldly where their leaders led and welcomed ruin and shook hands with infamy for what they believed to be the cause of their God and their King."

In traversing the heather covered hills and mountains in Scotland, now devoted to deer and sheep raising, we frequently find the ruins of small farm houses where a hardy population was sustained in the days when small holdings were the prevailing condition of farming in Scotland. The men nurtured in these glens were the forces which made British arms triumphant in every quarter of the globe. We cannot help feeling that Goldsmith's lines apply to the case:

- "Ill fares the land, to hastening ills a prey,  
Where wealth accumulates, and men decay:  
Princes and lords may flourish, or may fade,  
A breath can make them, as a breath has made;  
But a bold peasantry, their country's pride,  
When once destroyed, can never be supplied."

The heart sympathizes deeply with these sentiments, even if the head reasons them to be impracticable. The change from the small holding to the large farm, which began about a century ago, has reduced the sturdy peasantry, but has produced scientific culture of the soil. The force that came from accumulated wealth taking hold of farming forced out the small operator, but it has increased the product of labor. The same tendency has extended into all other lines of industry, the trusts being its latest manifestation. However much we may dislike the power of great aggregations of wealth, the philosophical man accepts it as the inevi-

table result of material progress. The Daimler car, which carried us, required no great attention beyond



AUCHINBLAE—A TYPICAL MEARN VILLAGE

handling the operating mechanism. When pushed to

speed it made between thirty and forty miles an hour very comfortably, but most of the trip was done at about twenty miles an hour. The village and county authorities pay no attention to the speed made by automobilists, and as we had a chief constable in the party, who was prepared to testify that we obeyed the law, there was no cause for apprehension.

I rode considerably on motor cars in other parts of the country, and I noticed that the greatest restrictions of speed were manifested by village and county constables in England. In Scotland there is very little annoyance experienced. Through the courtesy of Mr. S. F. Edge, the famous autocar racer, I enjoyed the privilege of riding through some of the most crowded streets



in London. The motorist was wonderfully skilful and twisted through the crowd of vehicles at speeds unknown to horse vehicles, and when a clear way for a block or two he rushed along at a rate which would have brought him within the clutches of the law in a great many country villages where constables make a business of arresting automobilists.

About Coventry I had the same experience and it was the same in going to an automobile race which I attended near Nottingham. The motorists seemed perfectly free to speed up in towns where the streets were clear and their progress in the open country was a series of spurts, where a couple of constables might likely be found lurking with malice aforethought.



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### Official Conservatism

Disgruntled Tourist (trying to push a mud covered automobile over an alleged country road)—“This is what you call road making here, is it? Scraping the loose dirt and stones from the sides of this cowtrack into the center of it and then leaving it there to be cut into ruts by farm wagons!”

The Farmer—“Young feller, I’ve been Highway Commissioner for this township twenty-seven year, an’ I learned road makin’ from my dad. He had the office ’fore I did. Do you reckon as how you kin teach me anything about it, mister?”

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### Unaccountable.

“Papa, there’s one thing about those fairy stories that seems queer.”

“What is that, Johnnie?”

“Whenever the fairy tells people to make three wishes, they never wish for an automobile.”



## Some Unusual Tire Tests

BY A. F. SINCLAIR

**A**LTHOUGH these trials terminated about the middle of October the awards have not been made known at the time of writing, though sufficient information is at hand on which to form a fairly probable forecast of the results.

The trials were of the most rigid and searching character, and although the test of riding over broken glass suggested by Mr. E. Midgeley, the owner of one of the sets of competing tires, was not included, as reported, in the ordeal, the tests were of a nature sufficiently severe to discover any defect or weakness in a tire no matter how trifling.

Twelve sets of tires were entered, but one set each of Martin's and Goodyear's did not start. Those competing were four sets of Dunlop, two sets of Maison Talbot and one set each of Collier-Twin, Martin, Goodyear and Midgeley, the last being an experimental tire, for which no award was desired.

The original distance to be run was 3,000 miles, but at the end of that distance the duel between a set of Dunlop and the Collier was so even that the judges ordered the test to be continued 1,000 miles further. The competition was open to various kinds of tires, but only the ordinary pneumatics, with the exception of the plate armored Midgeleys, entered.

The cars loaded were required to weigh 3,360 pounds and to be of at least 10 H. P. Each car carried two observers, one appointed by the A. C. G. B. & I. being the official observer, and another, nominated by a competitor, the latter not to ride on a car fitted with tires belonging to the firm by whom he was nominated.

One of the Maison Talbot sets dropped out on the fourth day of the competition, the Martin set on the twelfth and the Goodyear set on the sixteenth day. The remaining seven continued till the concluding day of the regular runs, the 8th of October, when three of the sets finished the 4,000 miles, the others having various distances to make at which they had lost during the regular runs from car failures. These distances were all run off by the 14th of October, except the arrears of the Midgeley set, and in their case the owner informed the committee that he did not intend to finish the distance.

The system of marking adopted was to record one mark as lost for every minute or part of a minute spent in tire inflation or repair, whether in the official garage or on the road. The tires were, of course, in charge of the club throughout, the cars returning to the appointed place of storage each night. At numerous times during the contest the tires were photographed in various positions, and at the conclusion of the test the tires became the property of the club to be cut up and further examined.

The best record for covering the 4,000 miles, and one which only serious dilapidation of tires at the conclusion of the distance would justify the judges in ignoring for first prize, was that of the Collier-Twin set, which only lost 45 marks, 25 of them for substituting a new inner tube and 18 for pumping at various times, the other penalties being for extracting nails. This is a remarkably fine record for pneumatics, and whatever the result of the judges' ultimate conference, it is one which will give the Collier tires a well deserved advertisement.

The next in order of merit, with nearly twice the number of lost marks, was one of the Dunlop sets with a score of 87 points against them, 51 of which were taken up in changing two inner tubes, 32 were for inflation, a few minutes at a time on various occasions, and four were used in extracting nails. All four Dunlop sets finished the 4,000 miles, although one of them had a somewhat poor record, losing 322 marks, while another lost 152 and the remaining set 102 marks.

The Maison Talbot set had the worst record, with a loss of 698 points. Each car carried two spare tires, that is to say, six tires were selected by the judges or their nominee from the makers' stock, and all six could be used in the competition.

The Midgeley set, after doing well in the early part of the contest, lost marks heavily toward the finish, and after introducing a seventh cover, while running off arrears of mileage, it was decided not to finish the distance. The set had then lost 199 marks. The value of these trials is discounted to some extent by the absence of the leading Continental tires, such as the Michelin and the Clipper-Continental makes, but their absence may have been a sound diplomatic move by the manufacturing firms, for it is improbable that either of those mentioned would have done better than the Colliers, and if they did worse they would simply be giving their British market away.

Glasgow, Oct. 8.

## Fifteen Hundred Miles of Fun



**D**OCTORS do not like to take their own medicine.

Can you blame them?

When, however, you run across that very rare kind of a physician who has faith enough in the remedy he prescribes for others to take it himself, don't let him get away from you, because you have the man who

knows what he is doing, and proves it.

Many makers of motor vehicles are not altogether unlike doctors; they are willing enough to sell you or me automobiles, and guarantee them as being the best thing in the world for touring, but they are not quite so willing to go touring in the vehicles themselves. Mr. Volney S. Beardsley, treasurer and manager of the Beardsley & Hubbs Manufacturing Company, not only builds touring carriages, but he tours in them.

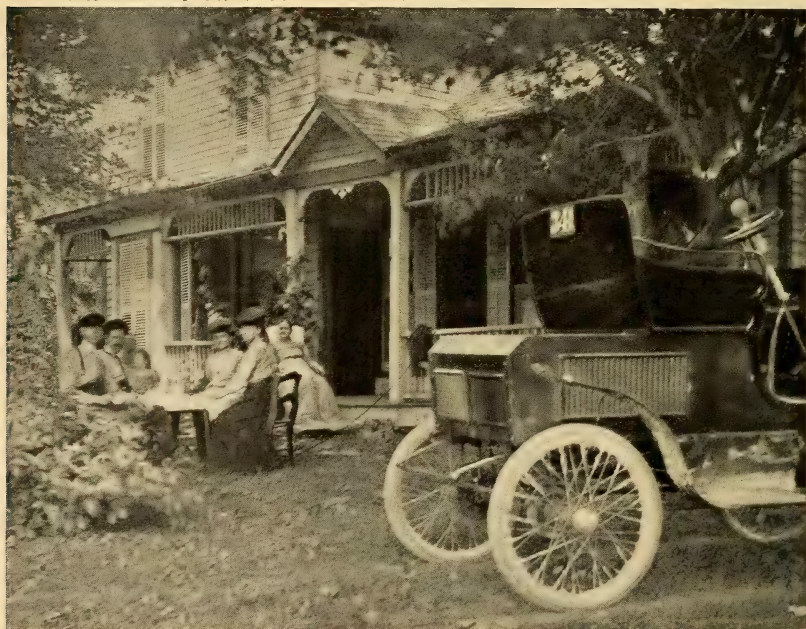
In company with Mr. and Mrs. Sydney L. Palmer, in the 10 H. P. vehicle shown in the accompanying illustrations, Mr. Beardsley's party spent four pleasant weeks in thoroughly exploring Ohio, in which State, at Shelby, Mr. Beardsley has his home and factory. During the trip no attempt was made to see how fast the party could travel, but rather how comfortably. The result was that the mileage was but 1,500 miles, but when it is remembered that this was done over roads more often bad than good, and in weather not always favorable, the performance is a highly creditable one. When the conditions were favorable the party were surprised to see how easily 498 miles were covered in five days' time.

So enjoyable was the whole trip that already Mr. Beardsley is planning a new and more extensive one for next summer. The scramble among his friends as to which shall be the lucky ones to accompany him next time has already become so embarrassing that Mr. Beardsley may in the end be forced to lead a perfect caravan of his carriages so as to prevent all sorts of unpleasant things resulting from those he will otherwise have to disappoint.

The incidents of the trip were many, but none was more amusing than the one which is connected with a little dinner party en



route. With appetites well sharpened the party had at the end of a forenoon's run arrived at a rural homestead of such prominence as to warrant the belief that the larder thereof was well stored. Coming up to the house Mr. Beardsley's party was met with anything but the heartiest of welcomes. The lady of the house evidently had serious doubts as to the social as well as the financial standing of any people who went riding around the country in an automobile, and it required no small amount of persuasion on the part of her self-invited guests to win her over to preparing a meal for them.



Finally the ladies of the party succeeded in doing this, and the good dame vanished in the house, carefully closing and locking the front door behind her. The tourists, thus shown that their places were outside that particular domicile, whiled away the time as best they could until the housewife finally opened the door and beckoned to one of the gentlemen in the party to approach. Then she confided to him that the dinner was ready, but she "reckoned they could eat it just as well outdoors" so he must help her carry the table out there for that purpose. This was done, and the meal enjoyed all the more from the nature of the surroundings. Prejudice



is not easily killed, however, and as the party drove off, thanking their hostess for her kindness, she was carefully examining the money which had been paid for it, with an air of grave doubts as to its genuineness.

The small family gathering shown in the initial cut is an example of what Mr. Beardsley considers about all one of his carriages should be called upon to accommodate at one time. Mr. Beardsley does not advocate quite so many passengers when touring, as he has an idea that there is not quite the comfort with so many as where a lesser number are carried.

## Capable of Being Curtailed

THE tail to a man's coat has often been used as proof that women are not alone in their use of garments in which utility has been lost sight of in an attempt to secure style. In the case of a driving coat, however, the tails thereof have a real practical value since they act as a lap robe might in keeping warm the legs



of the driver whose limbs are prone to quickly suffer from the cold owing to his exposed position and the cramped one as well which he is forced to occupy.

The illustrations herewith tell the story of a very ingenious effort on the part of an English tailor to produce an automobile coat, which can be made all things to all men. As a rule, the attempt to make a chest of drawers by day a comfortable bed by night fails in both directions; its drawing qualities are nil while its bedding ones are no better. In the present instance, however, the convertible idea has been worked out in a fashion which apparently leaves little, if anything, to be desired.

## Prospect for Better Highways

BY ANGUS SINCLAIR

THE rural, commercial and industrial interests of this country have been so much accustomed to depend upon canals and railroads to transport their products to market, that they have habitually neglected the arteries over which nearly all traffic originates, viz.: the common highway. Farmers and other people living in the country are more interested than other citizens in the construction and maintenance of good highways; yet until a few years ago they displayed obstinate antipathy to help any movement in favor of improving the country's highways. In our great States which are expected to take the lead in all movements for the public good, New York is the most influential; but the legislators of that state have habitually wasted so much money upon the Erie canal that nothing was left for other internal improvements, and public highway interests have been among the worst sufferers. This is particularly unfair to rural interests, because the canal promoters agreed to help in securing legislation for the building of a great highway through the State, as a reward to the people in the southern tier of counties for their aid in obtaining subsidies for the canal; yet the promises have not only been ignored, but, to the contrary, every obstacle possible has been thrown in the way when any movement has been started to provide the means for carrying out road improvements.

There was nothing for the politician in subsidies for improving highways, but there was no end of boodle in an appropriation for canals and so the canals have kept the right of way to the public purse. It was nobody's business to push appropriations for highways, and so the roads have been permitted to remain in deplorable condition.

The first systematic movement made to improve the country's highways was originated by bicyclists when that form of amusement was an active living force. The bicycle fantasy has passed, but it has been succeeded by even a stronger movement, that of automobiling, and the people interested in horseless carriages are agitating strenuously in favor of improved highways and the influence they exercise as a class promises to produce important results. All they need is the co-operation of farmers and others interested in having good roads to haul their produce over.

The Automobile Club of America has inaugurated a move-

ment which is calculated to effect a revolution in inland transportation if it meets with the support it deserves. A few months ago Gen. Roy Stone, who has made a special study of road making, in an address before the Automobile Club of America, strongly advocated the use of steel plates for making highways. His arguments were so convincing that Mr. Charles M. Schwab, president of the United States Steel Corporation, offered to provide at his own expense steel sufficient to lay a mile of the roadway recommended by Gen. Stone. One block of that steel has been laid in Murray street, New York, a street noted for its heavy traffic and the indications are that it will fulfil all the promises made for it, many as they are.

The plates are twelve inches wide and are perfectly flat, with the exception of a slight ridge on each side to act as a slight wheel guard. They are laid on cement, are made continuous by riveted joints and are set 4 feet, 6 inches from center to center, making them a satisfactory width apart.

The remainder of the mile will be laid in different places near New York, where they can be readily examined by people interested in highways of this character. Gen. Stone says that this style of roadway can be laid down for about \$4,000 a mile. The work has been done by the influence of automobile interests, but it will probably be found of greater value to other users of public highways.

Every person familiar with teaming in cities is aware of the great reduction of wheel resistance that results from the wheels of a wagon being run on the plates attached to street car rails. If the day ever comes that the country roads are laid with steel runways, the saving to people who have to haul freight over the roads will be immense. Experiments made by engineers of high reputation have shown that a horse can haul on an iron or steel track 54 times the load it can haul in sand, 36 times as much as on an earth road, 33 times as much on a stone trackway, 25 times as much on a plank road in good order, and 9 times as much on a good macadamized road. Most of the roads that farmers have to haul their produce over are earth roads, so the change to steel would increase the haulage eighteen times. The introduction of such an improvement ought to draw the cordial co-operation of every person who wishes to see our agricultural communities prospering, as they should prosper.



## America in Ireland

**T**HE illustration herewith tells the story of an unusual street condition in Belfast, Ireland, which, bad as it was, did not prevent the little American Oldsmobile seen in the foreground from proceeding triumphantly on its way. The gentleman who is enjoying this unusual form of urban automobiling is Mr. J. Brown, F.R.S., who in 1896 imported the first motor vehicle into Ireland.

The magnificent building which can be indistinctly seen in the background is Belfast's new City Hall, which, when completed,



is to be a model of its kind. Mr. Brown says that the streets of Belfast are not always as they appear in this picture, which was taken while the streets were flooded from an unusually heavy rainfall. Under the ordinary conditions which prevail, automobiling in Ireland is a pleasure which none enjoys or knows more of than Mr. Brown, who has himself designed and built a very original vehicle for his own use.

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When the scorcher asks you what you think of him, fool him and give him your honest opinion.



## When "Doctors Disagree"

It is a curious fact that the two instances in which, during the present year, the road directions as given in THE AUTOMOBILE MAGAZINE tours and maps have found critics among our readers, have concerned the identical portion of the New York-Philadelphia route as published in the October number. Both have agreed in questioning the desirability of running from St. George avenue, just beyond Rahway, to Iselin station (en route to Metuchen and New Brunswick), by the shorter but poorer highway alongside the tracks of the Pennsylvania Railroad. The new and better-surfaced way, past the Colonia Country Club and (in the words of a correspondent) "rock road which is circuitous but by guideposts," is recommended. Geographically it is a small matter (a circle would enclose the whole); but the difference is of large importance in a

These gentlemen, mobile tourists living on are right, and the compiler is pleased to revise his which means also an aptitude in the reception and corrections, in the recommendations, in the recommendations. At the same time just how that

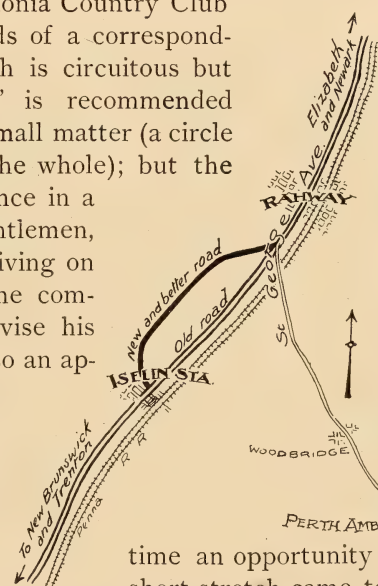
was—an item now of some passing interest in view of the discussion aroused; otherwise a mere incident of the problems that confront the compiler who is doing at all events his own original work.

One September afternoon the writer approached from New York way the place where this alternative presents itself. It is a mile or so beyond the city of Rahway that St. George avenue carries over the four tracks of the Pennsylvania Railroad, to Woodbridge and Perth Amboy. Bound for Philadelphia, one would in no case make that crossing, and the choice is between the shorter-poorer road that goes almost due south from this point (along the tracks but on the right hand side) and the better-longer

and golf grounds, (ent) following the plainly indicated instead. Geographical difference may be through trip.

both practical auto- or near that line, piler of the route reference copy, appropriate record of our information department light of these tions, as person- edged to each.

time an opportunity is offered to show short stretch came to be selected as it



way that turns out and up to the right; the both joining at Iselin station.

Himself a stranger there, the writer stopped for a chat with the veteran who guards the railroad crossing at that point—one whose daily observation would be likely to be of value in guiding a locally unacquainted tourist's decision. He said the outer road was the better one and as such invariably taken by those who knew and understood its common terminus with the other at Iselin. But its first appearance was that of a detour, since no sign explained, and in consequence the majority of travelers followed straight ahead and took the road as they found it—this in most cases without any serious trouble.

Hesitating to incorporate this apparent detour into the New York-Philadelphia through line, unless absolutely necessary, we were undoubtedly in a frame of mind favorable to the other; and this harked back to another incident bearing on the case. Shortly before we had received a communication from New Brunswick asking our aid in demanding the improvement of this short stretch, in which occurred something to the effect that it was the worst two or three miles between New York and Philadelphia, and a "disgrace to the State of New Jersey." Instead of rushing into print without personal investigation of the matter, we made a mental note of the appeal and were going over to look it up. We did go over it on this occasion—not satisfied with it, of course, but quietly wishing to ourselves that we might never see worse. Its directness and perfect plainness, backed up by what the guardman had told, by the memory of the impassioned demand for the improvement of this stretch as an integral part of the New York-Philadelphia run, and our experience with it, led us to give it the preference over the other. There was the further consideration that improvement was working that way and might at any time make that bad stretch good, in which case our own opinion would be that it, not the outer road, would be a logical fraction of this through line. We had faith, for one thing, that the road-enterprise of New Jersey would act before an end-to-end revision could be made in *THE AUTOMOBILE MAGAZINE*.

In the light of these facts, the result may not be so strange after all—which we say after expressly stating our intention to use the substitute stretch in our information and correspondence service until a new result can be had. To decide these things for his particular and present purpose is often a vexatious matter for the compiler; and yet he would much prefer to make frequent revision of his own

opinions and directions than to deprive any automobile tourist of comforting facts and easier detours. Our thanks in this case are due especially to Mr. Louis A. Voorhees, of New Brunswick, N. J., and Mr. Louis I. Whitlock, of Elizabeth, N. J. ROBERT BRUCE.

## The Cup Lifter's Stable

THE challenger for the America Cup is not only an ardent yachtsman, but is also an extensive owner of automobiles as well as a most skilful driver thereof. Until quite recently he owned nothing more powerful than a 12 H. P. Daimler, which



one could surmise to be sufficiently speedy to cope with a twelve miles an hour limit, but he has now gone in for the 22 H. P. car here shown, which has been built by the same firm on very much the same lines as those owned by King Edward. Besides the two Daimlers he owns two 10 H. P. Panhards and an Oldsmobile, which little American stands particularly high in Sir Thomas' affections.



Sir Thomas never does anything by halves, no matter what his particular hobby for the moment may be, hence it is but natural that no pent-up Utica of automobilism should be his. In selecting a light vehicle Sir Thomas struck it right the very first time, and hence it is that his little American carriage heads the procession of his motor stud. When it came to choosing a satisfactory heavy vehicle, the doughty cup hunter seems to have been far from positive and hence it is that the number of his automobile purchases has steadily increased until even the picture herewith shows only a portion thereof.

Essentially a boomer and a prince of good fellows, Sir Thomas Lipton rarely fails to add to the popularity and the success of anything he goes in for, and in the present instance automobiling is a gainer by having won his adherence.

So confirmed a cup-lifter has the genial Sir Thomas become that it is said he has declared he will be found represented in any team which might be sent to this country to win back the Bennett



cup should American automobilists succeed in wresting it from its present British holders. In this connection it is of interest to remember that in presenting the cup its donor, Mr. James Gordon Bennett, sought to make it to the automobile world what the America cup, after which it was modeled, is to the yachting world.

As many who have tried to travel the road in an automobile have learned, invention is generally a rough way to Easy Street.



# THE AUTOMOBILE MAGAZINE

*A Live Journal for all interested in Motor Vehicles*

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## Late Autumn and Winter Riding

**B**OAST as you will of the pleasures and benefits of automobile touring in the blossoming spring and the full tide of summer, and your enthusiasm will echo to the craft at large. Make it the same open country, and November or December, and fewer will understand the attraction of it, or be ready to swing into line at your invitation. And yet it is a four-season sport if ever there was one. Only the choice among suitable days narrows down, and you cannot pick out just the ideal conditions for a run so closely. There are more things to overcome, extra precautions to take and—there's the usual rub—a different kind of mettle to be tested.

One who wishes to thoroughly initiate himself into late autumn and winter riding should make up his mind to be deterred from his purpose by nothing short of impassable roads or other circumstances unfavorable to comfortable out-of-door work. Automob-

bilism—here in the North anyhow—has no special need for the enthusiast who rides every day during the winter. But that sort of enterprise which keeps the vehicle in commission throughout the year, and thus ready for any chance opportunity for its use, is not only commendable in itself but of real value to the sport. Conversely, to put it away at first snowfall, like a fair weather yacht or houseboat, is scarcely a willing testimonial to the all-around capabilities of the best modern machines. Given hard roads, ample supplies and good all around equipment and the operator of an automobile is in better condition to enjoy some exhilarating outdoor work in the winter months than any other road user with the possible exception of the traveler on runners. But between these two there is not and cannot well be any serious rivalry.

The parks of our large cities—particularly on the seaboards East and West—are scarcely less than individual riding systems in which there is much to enjoy when the open country is actually bleak and uninviting. The city with all its comforts and facilities is always near, and especially at dusk the lights on every side lend a cheery aspect to your return home from a spin along the parkways and boulevards. Of the suitability of the nearby and suburban roads one can usually judge from the conditions of the streets near his home and the promise of the sky above; but the real country highways may be a somewhat different matter. It often happens that a trip, say from New York to Tarrytown or Peekskill, means a change from perfectly dry going to light snow; but if one cannot carry his climate with him he can at least prepare for such changes as are likely to be found within the radius of one day's out-and-home trip.

Perhaps no class of automobilists has given as much attention to the practical side of all-year riding as those physicians who have adopted the motor vehicle in making their professional rounds. With them it is a matter not of sentiment but of business—economy of time and readiness in ever-present emergencies. In deciding quickly upon which way to go in each separate instance, they are apt to judge sharply of just what the automobile can be relied upon to do under the conditions of the hour. If those who are prone to underestimate the reliability of the machine will only take the trouble to note what the doctors, especially in the larger cities, but in a way also through the country, are doing on an average of 300 days in the year, they will be surprised. In other words, the great body of owners and users may get much more out of

their vehicles in the way of all-year service than they are apt to think. And this, too, without any marked advance in operating expense and repair charges, if care and good judgment be used.

In this climate we are sure of at least a few days of genuine Indian summer weather, and advantage should be taken of this opportunity anyhow for some spirited outdoor work. At no time are the highways likely to be in much better condition, nor should the zeal of the automobilist be less pronounced than in May or June. This bit of summer *redivivus* has in store not only some rare good treats of its own, but rightly improved, it cuts down by so much what the unventuresome and less self-reliant call their "closed season."

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## Weakest Link in a Steam Carriage

**T**HERE is a saying in connection with mechanics that the weakest link is the strongest part of a chain. This sounds like a paradox, but it is self-evident that no apparatus or machine is stronger than the part most liable to break.

The development of machinery has been a tentative process, in which experience has been the guide that provided the means of overcoming failure. An engineer would design a machine, and by calculation provide what he supposed to be the necessary strength; but some part would break or fail unexpectedly, and in succeeding machines the parts that failed would be strengthened or simplified.

We have been led into this line of thought by experience with a steam automobile. As it left the makers, the machine was ridiculously defective, having evidently been designed by a bicycle draftsman; but after it had been practically rebuilt, it gave fair service with the exception of the pumps. There is an air pump on one side and a water pump on the other. Both are operated by the crossheads and one of them may always be depended upon to give trouble if a trip of fifty miles is attempted.

As a rule, a cross-head driven water pump is particularly aggravating. The driving parts are so small in proportion to the work they have to perform, that they wear rapidly, a tendency which is greatly accentuated by the sand and grit always covering them, and the lost motion produced reduces the action of the plunger to such an extent, that the water thrown will not supply

the boiler. The tiny suction and check valves employed, have such a limited impact surface that it wears rapidly and impairs the efficiency of the pump. The lift of a valve is generally right for some particular speed. Above or below that the efficiency of the pump will be impaired. If the valves have too much lift, part of the water will be lost through both the suction and delivery valves. Then, a very small leak in a gland or in the suction pipe will lead to air drawing, with the result that an air cushion is formed, which prevents the free suction and the delivery of water.

Before the advent of the injector into locomotive service, the boiler was fed by pumps whose plunger was actuated by the cross-head. With high speed engines, there was constant difficulty in keeping the valves adjusted so that the water supply would be uniform at different speeds. "The engine runs away from the water," was a common report which meant that the pumps supplied the boiler at slow speed, but failed when running very fast. The reverse was also a source of annoyance. When adjusted for high speed the pumps would fail to give the necessary water supply at slow speeds. The injector is an effectual remedy of the pump disorders, and independent steam pumps are equally efficient.

The steam automobile is operated very much in the same way as a locomotive required to run at great varieties of speed. The remedy that was necessary to prevent constant delays and annoyance with locomotives ought to be applied to automobiles. There are several forms of independent pumps and injectors on the market that are suitable for automobiles. Some of the pumps keep up a supply of both air and water.

The weakest link in the mechanism of a steam automobile is the cross-head pump. Common sense demands that something more reliable be introduced. If manufacturers do not offer this improvement on their own volition, purchasers ought to insist upon it for their own comfort and convenience.

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## Why and Wherefore

**D**O you know why the automobile is really a blessing and very hopeful sign of the times? We'll tell you. It is hopeful and cheering because it does for the individual possessed of a certain position and means what could not be done in times gone by except through the enforced slavery of something else.



What such a man wants most in this world occasionally is to get off somewhere and be alone—unless he happens to be a Hot-tentot, unable, as Herr Schopp says, to get enough of his fellows' snub-nosed company.

Until the automobile came a man of affairs could get off by having some poor devil of a coachman sit up straight and drive him. The man who wanted to go out on the roads peacefully had to know that at least one other man dressed like a monkey was sitting on a very uncomfortable seat in front of him sharing the trip. Now such a man may go where he likes and as far as he likes and the motor that takes him does not mind the work.

In the automobile you see proof that there is the possibility in the very near future of giving to the many what has hitherto been the privilege of the few, and that certainly is encouraging. Each man and even most women may eventually go where he or she pleases, fast or slow, far or near. No servant is required, no democratic street-car conductor even.

Three-fourths of the value of any form of outdoor pastime is in the pleasure it gives. Monotonous outings taken merely because the body clamors for a change do very little good. There should always be some other object strong enough to make the method of taking seem but an incident.

Dull and dreary indeed must be the man or woman who will not be inspired to bestir himself or herself by this panorama of quaint, beautiful or otherwise interesting places that lie each at the end of a few miles of exhilarating riding in a motor vehicle.

A few more inventions like the automobile and this world will be much improved.

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## Wherein the Charm Is

**E**VEN the most determined enemies of the motor vehicle are forced to admit that it exercises an extraordinary charm upon those who come within its ever-widening "sphere of influence." It may be worth while, then, for the benefit of those yet uninfluenced to say a word or two in explanation of this charm and to make them realize that the motor enthusiast is no mere crank swayed only by fashion and novelty, but is a man of perception, who has reasons for the faith that is in him.

The essential and controlling charm of automobiling is that it increases one's freedom of action, while it reduces the friction of

life in an appreciable degree. A metaphysician might describe automobiling as forming part of a reaction toward individualism and simplicity of action engendered by the temporary triumph of collectivism as applied to transportation.

The railroad train is necessarily a collectivist. A passenger train starts and reaches its destination owing to the combined volition of a large number of persons who want to travel, let us say from New York to Boston. But in order to satisfy those volitions and make them executive they have to be marshalled and organized, and so, in a sense, shackled. A railroad train, with its engineer, brakeman and conductor and fixed places of stoppage, is a creature of strict rules, and those who travel in it must temporarily surrender their private wishes, or a part of them, to co-operate with others.

The man who takes out a motor vehicle and drives it along the roads is, as it were, a freeholder, with all the freeholder's freedom—though, doubtless, also, with some of the freeholder's limitations and weakness and isolation. Still, the charm of freedom estops when he likes.

The charm of being independent of one's fellows, of course, belongs also in theory to any similar conveyance, from a dirtcart to a dogcart, but in practice it does not operate in such cases save over very short distances.

The lust of time saving is too powerful and gives the advantage to the train. No horse can go at the rate of even fifteen miles an hour, to say nothing of double treble or even quadruple that, for three consecutive hours, and at the end of the three hours be ready and able to go on for another three or eight or ten or a dozen hours more. It is the tirelessness no less than the speed which makes the motored vehicle such a different mode of transport from any other of anything like equal possibilities.

In the employment of the automobile you have a method of moving from place to place as tireless as a train, one which for short journeys and cross journeys is as quick as the train, and yet withal one which is individualistic and independent, hence its charm.

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Every great movement of any prominent or practical character of the wheel of invention has had its initial revolutions rudely braked, and when it insisted on rolling forward every obstruction that ignorance and stupidity could put in its way has been ruthlessly

employed. Every good point of the improvement has been depreciated, every weakness exaggerated, every temporary failure hailed with delight. Pioneers die exhausted in the endeavor to force their way through a thicket of blind prejudice, which grows often as fast as it is cut down; and sometimes when they are gone the cause for which they have struggled has its progress barred for a generation or more. The automobile experienced all this in the past, and it is far indeed from being free from it in the present, but it will roll onward to eventual triumph and those few benighted ones who are now foremost in attempting to present it will, when the goal is reached, be foremost in the ranks of the millions who will welcome it to the high place in the world's economies to which it is entitled.

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Those who ever see in the existing order of things all that is perfect or possible may even yet sneer at the vehicle which goes on its way without the aid of an animal, but a trial soon makes even those who sneer enthusiastic converts to the motor-driven conveyance. The day will soon come when the self-propelled vehicle, in its various forms, will be as necessary as the sewing machine and the kitchen stove now are. The automobile is a cheapening luxury at present, but widespread use will soon make it an absolute necessity, so that men will wonder, as they do now with the telephone, how they ever did without it.

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It has been proposed in England for a number of people who are disinclined or unable to own a motor vehicle to combine, buy an automobile and then apportion out its use and the expense of its upkeep according to some mutually agreed upon plan of the purchasers. The theory is all right.

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When you don't know, be brave enough to say so. Besides, it is a good plan. "I don't know" will save you many a useless argument about a vehicle or its use.

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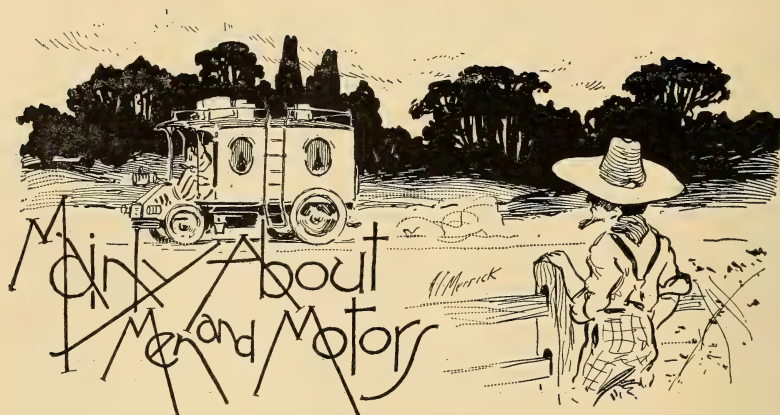
It is not wise to believe all you hear about an automobile, but it is well to use discretion in your declarations of incredulity.

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Some owners acquire knowledge of an automobile for the sake of knowing it, and some for the sake of telling it.

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In an automobile an ounce of might is often of more propulsive value than a pound of right.



THAT touring is taking a decided hold on the automobile public was evidenced this summer by the large number of people who applied to THE AUTOMOBILE MAGAZINE's tour department for routes. Miss Helen Gould was among those who wanted a suitable route to a distant point, where she was going in a motor vehicle with Judging from estimable lady return, the trip a most pleasant summer she will more extensive to touring re- there opens up m a n u f a c t u r e r touring car suit- ing purposes.



some friends. the remarks the made upon her must have been one, and next plan a much one. Referring minds me that a field for some who will build a able for camp- Such a touring

carriage should be equipped with sleeping accommodations, as well as a cooking outfit. The time is ripe for the appearance of such a car, and the manufacturer who will first produce a suitable touring carriage will have all he can do for some time to come. It is no unusual thing for people nowadays to take an automobile trip of a week or more in duration, and many, especially the younger element, would like a little gypsy life added to the pleasure of such runs.

Will somebody please present Mr. Foxhall Keene with "the left hind foot of a graveyard rabbit caught in the dark of the moon?" There is no doubt but what Mr. Keene requires such a



mascot or bad luck preventer, for he is fast earning the title of the champion Jonah sportsman of the universe. Mr. Keene, in the races in France, was the only man to run into a railroad crossing gate, and it takes a poor-sighted man not to see a gate in the road, and Mr. Keene's sight has never been brought into question, for he is said to possess at least one attribute of his famous father, James R. Keene, and that is a vision like unto his name. When Mr. Keene goes fox hunting in the "old country" his mount usually balks at a moderate fence, and the result is generally that Mr. Keene is a little nearer the fox than the equine who throws him over the fence, in other words he gets the horse-laugh. If Mr. Keene plays polo his pony manages to run into another pony, and there is a grand mix up, Mr. Keene coming out of the skirmish badly disfigured; but to his credit let it be said that he comes out smiling for another round, and is in the ring nearly all the time.

The other day the annual dog show managers rightly recognized Mr. Keene's sporting qualities (and they are of no mean order) by inviting him to act as judge at the show in Madison Square Garden. Mr. Keene started from his Long Island country residence in his automobile, and before he had proceeded far his machine balked, probably due to the driver, and Mr. Keene landed on his head in the road. He picked himself up and proceeded to the dog show, but he had not been in the building five minutes before Homer Davenport's bulldog smelled the Jonah on him and promptly bit his hand, and he was the first person to get bitten in the show. Mr. Davenport did not use his facile pen in a cartoon way on Mr. Keene, but squared matters by inviting him out of Jersey to see the Davenport prize Chinese pheasants, Pekin ducks, etc., not to mention the sacred goat Homer keeps in mosquito land. Of course, people are liable to judge automobiles more by the mishaps of their drivers than by their real virtues, so I hope some Southern darkey will promptly supply Mr. Keene with the badly needed mascot mentioned above.

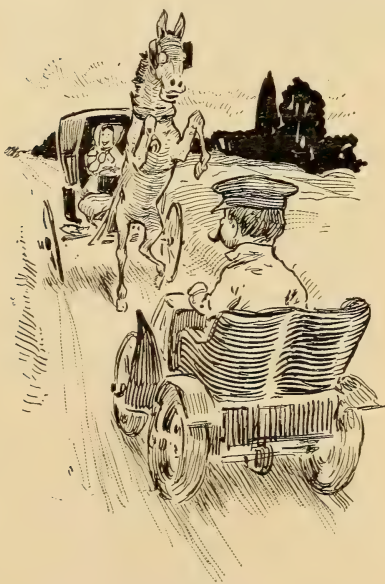
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Automobiling has a sturdy champion in the person of William Randolph Hearst, editor and proprietor of the three good dailies comprising the San Francisco *Examiner*, Chicago *American* and the New York *American*, of which the *Evening Journal* is a part. Mr. Hearst is a friend of Fournier's, and the latter got Mr. Hearst interested in automobiling, and was the means of selling him a Mors. Mr. Hearst used his vehicle in his recent successful

congressional canvass, and in Mr. Hearst's election the automobile has a sturdy champion in Congress.

I do not believe all I read in Mr. Hearst's papers, but I do know his papers are read, and that they help to form public opinion. The opposition to automobiles is not confined to the laboring class, whose interests Mr. Hearst champions, but it is well that a proper view of automobiling be given to the nearly two million people who read the Hearst publications, which are also read by many of the so-called aristocratic class who have taken a delight in placing tacks before the automobile pneumatic tire. The editorials in the Hearst publications will do much to produce a more tolerant view of the new means of locomotion which is going to do so much to assist the human race in progress, not saying anything about the poor horse to whom the automobile will come as a Lincoln to deliver them from their slavery. The automobile may be to-day a rich man's amusement, but it will be everybody's convenience a few years from now.

Users of motor vehicles can do a great deal when they are on the road to overcome the popular prejudice against the auto-



mobile, if they only observe two or three common precautions. Such observance will be promptly appreciated by a public which may have been somewhat hostile to the automobile in the past. A little courtesy toward the drivers of horse-drawn vehicles is an excellent thing, while a pleasant spoken word when passing will do harm neither to the speaker or the spoken to. If a horse is disposed to be frightened, a soothing word in good time often accomplishes wonders, but should it not do so, the automobilist would do well to stop and assist the driver in getting the animal

by. These little things will aid in winning the public over to the automobile, and will do much to disarm the hostility of those horse

owners who have suffered from the reckless and inconsiderate actions of the automobile few. Another thing that should be borne in mind is the dress of the automobilist, which should be kept as neat, and his personal appearance as cleanly as possible. There has been considerable complaint, and not without reason, too, that many automobilists look "trampy" and dirty. Cleanliness of person and neatness of dress will both aid in making automobiling popular.

The noiseless gasolene carriage has arrived, and the continued improvement in this direction has been one of the marked features of recent construction. The Stevens-Duryea, the Winton and the Haynes-Apperson are excellent examples of the noiseless class, while William Van Wagoner, of the Century Motor Vehicle Co., Syracuse, N. Y., has produced a vehicle which makes so little noise that the famous thief in the night was a brass band in comparison to it.



One of the features of THE AUTOMOBILE MAGAZINE circulation is that it reaches many people who never see any other automobile publication. Recently a Portuguese firm addressed an inquiry as follows: "The Electric Vehicle Co., America, care AUTO. MAGAZINE, N. Y." The Portuguese were evidently not quite satisfied with the Hartford firm's address, so to be sure their inquiry reached the right party they sent the letter to THE AUTOMOBILE MAGAZINE, upon whose pages they had seen the famous Columbia makers' announcement. The other day a man wrote from Bombay, India, enclosing a subscription and a remittance for some books treating of automobiles, Albuquerque, New Mexico, has a merchant who comes to New York twice a year to buy, and while here he saw on the street a little steam automobile labeled "Customs House," but he was too busy to find out the makers of it. While thinking over the matter on a Santa Fe train cross-



ing the desert, he happened to go into the library car. There he found an AUTOMOBILE MAGAZINE, and the rest was easy. I do not think there will be any steam vehicle of this Custom House brand in Albuquerque in the near future.

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Through the courtesy of Myles T. Frisbie, late city editor of the *Post-Standard*, Syracuse, I was enabled to enjoy a ride in the touring car of Herbert A. Smith, one of the partners in the Smith-Premier Typewriter Company. Mr. Frisbie has given up active daily newspaper work for the more soothing position of advertising expert for the above named company, and he is just as clever at that as he was in the city department of his old paper. Mr. Frisbie, like all up-to-date men, is a thorough believer in the automobile, and next to the Smith-Premier typewriter, he believes it to be the greatest invention of the age. The cream of Mr. Smith's admiration centers on the Winton Touring Car. Being a clever mechanic and engineer, Mr. Smith has made a few improvements in the Winton, which the writer believes are all right and will be found in the 1903 Winton, since no sooner had Mr. Smith demonstrated an improvement than he went to the Winton factory and talked it over with Mr. Winton. So far as I am concerned, I am thoroughly convinced that Mr. Smith's car is the fastest touring model Winton that I was ever in, while as a hill climber I do not believe there is anything in the world that can beat it. Incidentally Mr. Smith has put a new set of springs on his Winton, and altogether has made the vehicle so very satisfactory that I do not believe Mr. Smith would sell his present Winton for an added thousand to the purchase price.

So enthusiastic is the Premier Typewriter man over his Winton that he has already communicated the fever to six other solid Saline City men, who will all be grasping the steering wheels of this make early in 1903. Mr. Smith thinks that the 20 H. P. Winton will be the acme of all that is good in automobiles in 1903, and as the best proof of this, he has already placed his order for one of them, but he will not sell his present carriage, as he frequently takes parties out for long runs in it, and is thereby doing as much for the good health of Syracuse, as most of the doctors are. A few Sundays ago, accompanied by his wife and a friend of his wife's, they made the trip from Syracuse to Ithaca, not quite 190 miles, and were only six and a half hours on the road. Mr. Smith believes in not violating the speed laws, but he thinks a little lee-



way should be given in the country. The gentleman who accompanied him to Ithaca had previously told Mr. Smith that his wife was a sufferer from insomnia, and the latter replied: "You come in my automobile with her and I will guarantee that she will sleep." The pure air and exciting ride did so benefit her that she enjoyed such a night's sleep as she had not had before. Dr. Herbert A. Smith, of the Automobile Homeopathic school, is doing that sort of work right along. Mrs. Smith accompanies her husband on nearly all his runs and is just as enthusiastic as he is. Mrs. Smith will probably drive a Baker Electric in the spring, as her husband is considering the question of purchasing one of those clever little carriages for her.

Mr. Smith is a most interesting person to talk to, and among other things he said to me was this: "This Winton of mine is a money-maker for me, because with it I can do twice the amount of getting around and making calls on business people that I could before I had it. If I get a little worn out in the office a sharp run for three or four miles acts as a tonic to the tired mind. Formerly I was sick and always doctoring and my appetite was poor; but to-day you talk about Pink Pills for Pale People, why I can eat five times a day, and am getting as strong as Samson. The average business man," continued Mr. Smith, "should buy an automobile and charge it up to business expenses, as he will find at the end of the year that it has been one of his very best business ventures."

The buyers of automobiles will do well to beware of the irresponsible manufacturer, who wants your money in advance, and who, after getting it, cares little how you fare with the vehicle he eventually sends you. Many people have been robbed, and a good many more will be, by these pay-in-advance pirates. My warning in this refers not only to the manufacturer of automobiles, but a similar class, parts makers and sundry manufacturers, as well. A lot of such people spring up in a night and are gone in a day. It is well to inquire closely into the standing and character of people before letting go of your money, and the automobile business offers



no exception for a need for such a display of caution on the part of buyers.

---

Frederick H. Elliott, of the Century Motor Vehicle Company, Syracuse, and who is an active worker in the Syracuse Automobile Club, is pushing his State club association idea vigorously. Mr. Elliott believes, and rightly so, that an association of State clubs will do much good in a legislative way at Albany and would carry more weight with the legislative solons than would a national association. The average legislator above all things thinks most and first and last about the votes he is going to get, and he is liable to reason that his first duty is to the voters of his particular State and district rather than to the voters of Nebraska and Iowa or Florida. So I hope to see the Elliott scheme go through with a rush, and judging from the enthusiastic support he has received from Buffalo, Utica and Rochester the nucleus of the State association is already provided, and if the talked-of additional New York club comes into view in New York city, a club association will be an assured fact.

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It was suggested the other day in a jocular way that absent treatment be given reckless automobilists, and that the horse be made amenable to the thought transfer idea. I can understand the thought theory of controlling a horse, but I am a little skeptical about mentality controlling a runaway automobile. Still there must be something in this, for the other day while in Boston I went into a building and this inscription was on an office door: "E. R. Corson, Automobile Agent and Christian Scientist." As an afterthought there was a line on the bottom, "Motor Bicycles for Sale." Now I know Mr. Corson and was sorry that a card on the door said that he was having a vacation in Maine and would not be back for a month, for I wanted to ask him how the two things mixed, and whether he had a motor that could be controlled with a thought wave friction clutch. What a magnificent thing that thought wave would be if your sparking device didn't work! It might also be good for tire punctures.

---

Those of us who are fortunate enough to sample the riding qualities of the various automobiles throughout the country are not slow to appreciate the difference between the drivers thereof. In the hands of some of them we feel glad that we carry a line of

life and accident policies so that our wives will have at least enough expense money to bridge the chasm of widowhood and until they select our successors. With others we forget all about insurance in enjoyment of the scenery and interesting objects as they are passed, while reverie takes the place of fear. Recently, on a Sunday morning, after listening to a very interesting sermon on "Power," by Dr. Morgan Wood, of Cleveland, I walked up Euclid avenue and dropped in on the Oldsmobile Company to find out something about the power progress made by Ralph Owen, who, like his brother, Ray, of New York, is pushing the popular little Detroit machine in the State of Ohio.

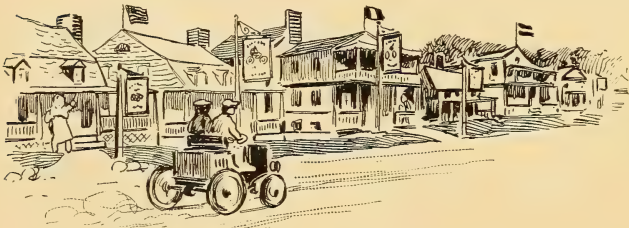
A party of gentlemen, including William L. Taylor, of East Liverpool, Ohio, who Mr. Owen had just taken over a short jaunt of some 200 miles in order to show him that the little Olds was all right anywhere, met the other day. Col. Dick Bacon, a very substantial Cleveland citizen, who spends a great deal of his time among the mountains and on the water, was present, and insisted that his (Bacon's) machine, an Olds, was undoubtedly the fastest little bird that ever came out of the Olds factory. Mr. Owen doubted the proposition, so the Colonel suggested that Messrs. Taylor and Owen get in the latter's vehicle, while THE AUTOMOBILE MAGAZINE representative should be the Colonel's guest. The party was then to proceed on a forty-mile run and the vehicle that was first to arrive at a certain hotel ten miles out should enjoy free of any expense a dinner, which was to be eaten on the way back. That proposition suited Ralph Owen and the start was made. A third passenger in the person of Otto Owen, a brother of Ralph Owen, occupied the dos-a-dos seat on his brother's rig, and a sure enough race resulted just as soon as the outskirts of the city had been safely passed. This same Colonel "Dick" Bacon knows how to run a machine all right and speed changing did not bother him, for only once did he throw the low gear in and that was to avoid a suddenly stopping trolley car. The Colonel regulates speed by the use of a spark almost entirely. Colonel Bacon insists that 90 per cent. of all automobile purchasers never understand the machine they buy, with the very natural result of an equal percentage of trouble. Colonel Bacon thinks that the old injunction, "Man know thyself," could be utilized, if "Man, know thy automobile," was widely advertised.

I had not gone far with the Colonel before something in his manner of control of the vehicle, especially the steering thereof,

caused me to ask him if he had ever handled a tiller on a racing yacht, and he confessed to the soft impeachment that he had, and he added, as his sporting blood fired up: "Yes, and very few of them could get away from me!" While I was learning the mysteries of boating last summer an experienced boat sharp said to me: "You must decide instantly what you want to do and do it, or you will be lost." I noticed the Colonel decided immediately when it came to steering, and bang, over went the lever, and the little carriage swooped into its intended position like a bird.

Like all good sportsmen Col. Bacon saves his mount, and he seemed to know every foot of the road and carefully avoided the ruts. Another thing that was noticeable was his saving of distance and his cleverness when passing teams. As to the speed of this particular Oldsmobile I am inclined to second the declaration of its owner that it is the fastest article that ever came out of the Detroit factory, for we had to wait for the three-passenger vehicle and then beat it out handily. This must be qualified by the remark that Mr. Taylor had the Owen lever on the way out, but coming back Ralph Owen took it, gave us a stern chase that left little to be desired in the way of trailing your leader.

Mr. Elmer Haynes, of Kokomo, Ind., thinks that there is room in this country for a string of wayside inns, such as ornament the



English and French country roads. In the old coaching days, wayside inns sprang up all over Great Britain.

When the bicycle came in vogue it encouraged the languishing bonifaces until the automobile arrived and made glad the heart of the rural publican, whose profession it is to provide "entertainment for man and beast." It is safe to say with the rapid road improvement here that the American boniface will soon be on hand with a wayside inn of a decent type, in place of the abominable road houses which now infest most of the good suburban roads in this country.

The reorganization, or rather the purchasing of the entire interest of the Badger Brass Mfg. Co., Kenosha, Wis., by my friends,



R. H. Welles and L. J. Keck, proves beyond a doubt that these pioneer lamp makers are thoroughly convinced that the future of the Solar is more than fully assured. In selecting a name for their lamp the Badger Brass Works certainly scored a touchdown and a goal in the lamp world, for nothing can be so bright as the solar luminary. But a name is not all, even though it has been said that it is better than riches, and so the construction and general merits of the Solar lamp have been tested and approved by thousands, and I hope will be approved by still other thousands not yet fully conversant with the Kenosha product. The two young men above mentioned know the trade and the trade knows them favorably, for it is doubtful if there are any other two men engaged in the praiseworthy effort of making light out of darkness who can approach the standard of popularity these young merchants enjoy. Both men are lamp specialists and only claim to know lamps and what is expected of them. In 1903 the Solar gas and oil lamps and headlights will be things of beauty and the line will attract every man and merchant who may be interested in a good automobile lamp. The reputation of the Solar lamps East and West has increased so much and their Eastern business grown to such proportions that we are to welcome L. J. Keck as New York manager of the Badger Brass Works.

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It was a cheering sight I saw on Michigan avenue, Chicago, the other evening, while standing with Manager Henry Goodman, of the Electric Vehicle Co., and Charlie Tucker, the Winton manager. The time was about 5:30, and the evening a fine one. The magnificent boulevard was crowded with pleasure vehicles of all descriptions, and to my surprise at least one-third of them were automobiles, which proved Chicago must be a pretty good market for motor carriages. A goodly number of the conveyances were early vintaged electrics, with solid tires and rattling motors, but they skipped along all the same, and kept right with the rest.



We are soon to have sections of steel pavement in New York, and before this issue of *THE AUTOMOBILE MAGAZINE* reaches our readers General Roy Stone, of the Good Roads Washington Commission, will have commenced to lay down in the metropolis sections of the steel pavement presented by Charles M. Schwab, president of the United States Steel Corporation. The location of these experimental pieces of steel road will be on Murray street, between Broadway and Church street, and on Seventh avenue above Central Park. It is possible that a mile will be laid in the latter location, and will consist of two rails, twelve inches broad, and will be set with their inner edges at less than the minimum wagon track distance apart. The rails are to be flat on top, except that at either edge they will have a ridge about a quarter of an inch in height to act as a sort of wheel guide. The rails will be laid in a bed of cement, and will be made continuous by joints, consisting of flat plates riveted to them.

The Automobile Club of America and Borough President Cantor will be actively interested in watching the work and this, it is hoped, will lead to a general adoption of steel pavements in the large cities where traffic is heavy. There is no doubt in my mind but what steel pavement, as laid down according to the above formula, will be a good thing, since, as I understand it, the horse will travel between the laid sections, but the road damager (the wheels of the vehicle) will run on the steel plates so that they will have practically good and easily travelled roads all the time, for it has been demonstrated that a heavy load can be drawn over a steel plate road with very little power, besides the saving in the wear and tear of vehicles will be considerable.

We modern people are liable to rail at our present roads and we condemn the people who are responsible for the road making for not giving us better roads, but we forget that we are on Easy street as compared with the men and women who had to travel the roads less than a hundred years ago. We forget those who made journeys from New York and New England to the far Pacific Coast by ox team.

THE SENATOR.

---

### A la Mode and Motor

"I'm so glad that you are engaged to Charlie Charburette. Was it a long courtship?"

"No, indeed. I don't believe we had ridden more than a hundred miles when he proposed."

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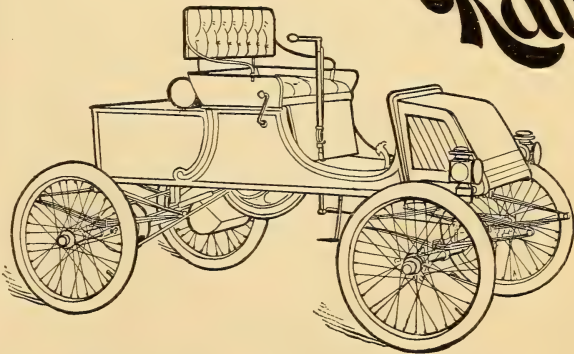
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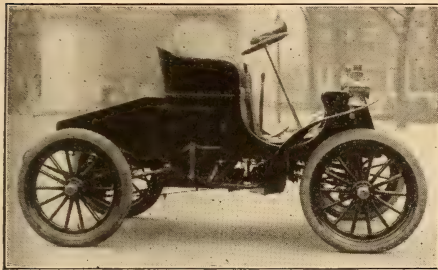
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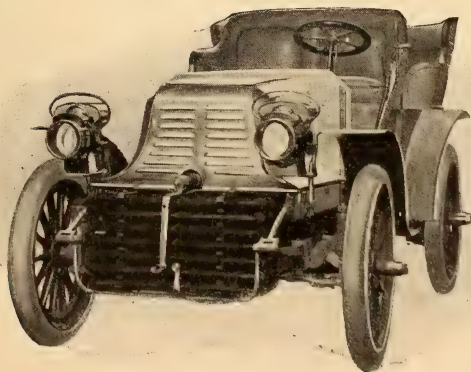
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Co., to carry two passengers, over ordinary roads, at a speed of from 5 to 20 miles per hour. Power is supplied from a French type, water cooled, explosive motor, which has a fuel supply, sufficient to give the vehicle a 75-mile radius of action. It can not be denied that it is just such vehicles as this which will bring about the motor millennium when

the possession of an automobile will be the rule and not the exception which it now is.

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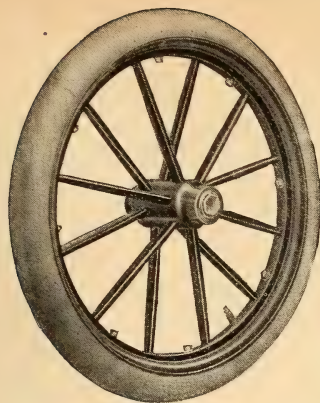
## Crowding Out Wooden Construction

Each day the automobile becomes more and more a thing of metal. Wood, all well enough in the carriage of yesterday, shows grave faults in the motored conveyance of to-day. The gradual replacing of everything wooden beneath the body with metal substitutes has quite naturally not been without effect upon the construction of the body itself. The result has been the introduction of sheet metal bodies for the vehicles, and in the tests begotten of experience the innovation has not been found wanting. To no one has this advance in automobile body construction been more due than to the Eastman Metallic Body Co., Cleveland, Ohio, who are justly proud of being pioneers in this direction.

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SPRINGFIELD—Locomobile Agency, Main St. S. R.  
STOUGHTON—James Lehan, Lehan's Bldg. Telephone, 38-4 and 38-7. S. R. C.  
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## MINNESOTA

MINNEAPOLIS—Great Western Cycle Co., 601 First Ave. Telephone, 1929 Main. S. R. C.

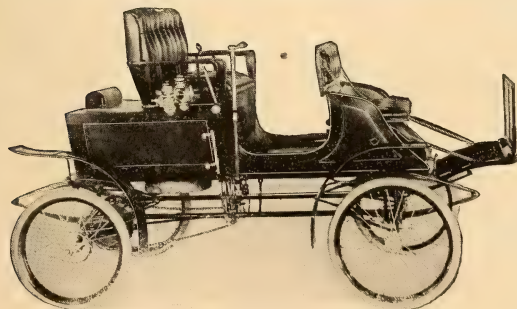
## MISSOURI

ST. LOUIS—R. J. Leacock Supply Co., 711 Pine St. S. R. C.  
KANSAS CITY—Day Auto. Co., 1407 So. 12th St. Telephone, 1742 Main. S. R.  
ST. LOUIS—Halsey Auto. Co., 4259-65 Olive St. "Both 'Phones." S. R. C.  
ST. LOUIS—Day Auto. Co., 1010 Olive St. Telephone, Bell, Main 1310. S. R.

## NEW JERSEY

ATLANTIC CITY—Arthur Boyce, 1735 Atlantic Ave. Telephone, 113-F and 766-F. S. R.  
BRIDGETOWN—Jacob R. Elwell. R.  
BURLINGTON—Gray Mfg. Co., 1116 Main St. S. R.  
EAST ORANGE—John M. Schmidt, 22 Railroad Pl. Telephone, 1504 E. O. S. R. C.  
EGG HARBOR—Jacob Wimberg. Telephone, Bell. S. R. C.  
HACKENSACK—Davison Eng. Co., Main and Bridge Sts. Telephone, 175-I. S. R. C.  
HACKENSACK—Wood & Bedly, 311 and 313 Main St. S. R. C.  
HACKETTSTOWN—M. S. Neighbor, Hope St. (King Bldg.). S. R. C.

## Prescott Touring Car



Wheel Base 68 inches.

Weight 1000 lbs.

Carry 2 or 4 Passengers.

Two Double Acting Brakes on Rear Hubs; Heavy New Design Running Gear; American Roller Bearings; Large Fuel and Water Capacity; New Indestructible Burner; Pilot Light Never Blows Out; Superheated Steam Doubles the Mileage of Water; Economy of Fuel; Encased Engine; Automatic Lubricator.

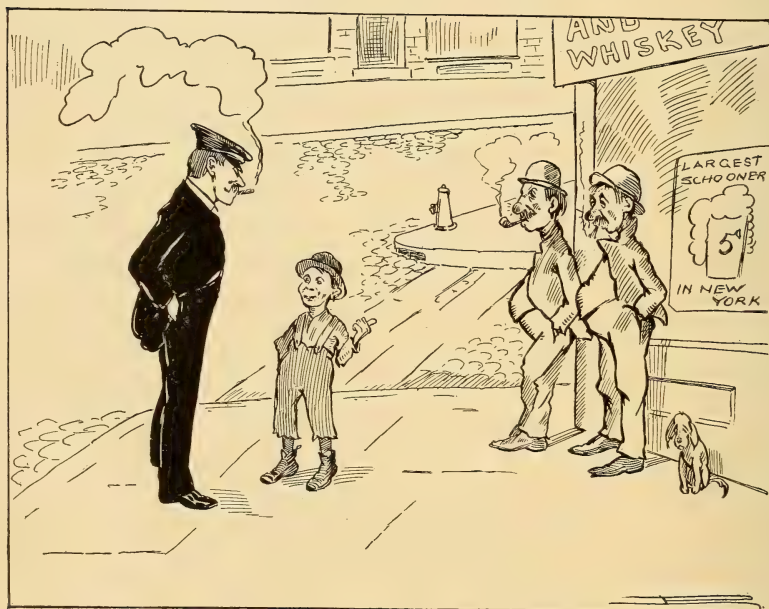
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**Prescott Auto Co.**  
83 Chambers St., New York



## An Interesting American Vehicle

**W**HEN a three and one-half horse-power vehicle is brought down to only four hundred pounds in weight the limit of reduction would seem to have been closely approached. The Crest Manufacturing Company at their plant in Cambridgeport, Mass., are turning out just such a gasolene vehicle however, and have found that its serviceability has been in nowise lessened by the elimination from its construction of all superfluous weight. With the air cooled motor placed upon the front axles, the weight of passengers and machinery is equally distributed upon all four wheels, thereby greatly reducing vibration, discomfort and wear and tear. Another and very important gain from the Crest arrangement of the

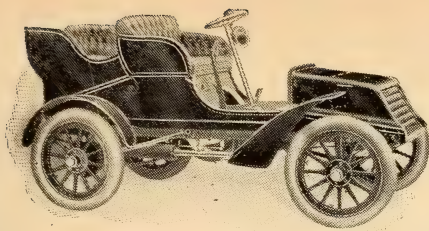


A Couple of Alcohol Motors with Empty Tanks

motor and machinery, is that the user of the vehicle is not required to get underneath the vehicle, should he desire to make examinations or repairs. To anyone who has ever crawled under an automobile "to see what the trouble was," this one improvement of the Crest vehicle would be sufficient to commend it to favorable consideration, even if it possessed none of the others, which it undoubtedly has.

If in doubt about some experiment with a motor get some other fellow to try it first.





Touring Car (15 h.p.) with Tonneau Attached

**YOUR DUTY** To select the best and most practical Automobile upon the American market is a duty man owes to himself. Carefully investigate everything offered. Conduct your inquiry intelligently and the result will be an opinion in favor of the **WINTON**

*The 1902 Winton Models are nearest the goal of Automobile perfection.*

WE SOLICIT CORRESPONDENCE

## THE WINTON MOTOR CARRIAGE CO., Cleveland, U.S.A.

BRANCHES AND AGENCY DEPOTS THROUGHOUT THE COUNTRY.

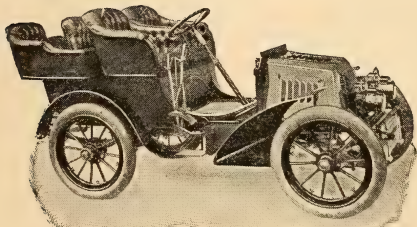
### NEW JERSEY—Continued

JERSEY CITY—D. W. Romaine, 70 Erie St. Telephone, 1559 F. S. R. C.  
 MORRISTOWN—Willis H. Dretton, 24 Washington St. Telephone, 173. S. R. C.  
 NEWARK—New Jersey Automobile Co., 8 Central Ave. Telephone, 734 Newark. S. R. C.  
 NEWARK—The Automobile Company, 79 Orange St. Telephone, 799. S. R. C.  
 NEWARK—J. W. Geissler, 46 William St. S. R. C.  
 NEWARK—L. Lawrence, 241 Halsey St. S. R. C.  
 NEWARK—Lewis J. Worth, 26-28 William St. S. R. C.  
 NEW EGYPT—Chafey & Brown. S. R. C.  
 PASSAIC—Geo. De W. Brown, 271 Main Ave. Telephone, 206 B. Passaic. S. R.  
 RIDGEWOOD—S. B. Hagerman, Bergen Co. S. R. C.  
 SEABRIGHT—H. L. Zobel, Jr. Telephone, 26-B. S. R. C.  
 SOUTH ORANGE—W. L. Mead, 275 Ridgewood Road. G.—Repair.  
 VINELAND—C. W. Pearson, N. 6th St. Telephone, 35 Interstate. S. R.

### NEW YORK

NEW YORK CITY—Automobile Storage and Repair Co., 57 West 66th St. Telephone, 1271 Columbus. S. R. C.  
 NEW YORK CITY—Homan & Schulz, 2642 Broadway, near 100th St. Telephone, 1465 Riverside. S. R. C.  
 NEW YORK CITY—Harlem Automobile Co., 159-163 West 127th St. Telephone, 1459 Harlem. S. R. C.  
 NEW YORK CITY—Manhattan Automobile Co., 62 West 43d St. Telephone, 4138 38th St. S. R. C.

NEW YORK CITY—Spalding-Bidwell Co., 38-40 West 43d St. Telephone, 691 38th St. S. R. C.  
 NEW YORK CITY—Chas. Strathmann, 175 E. 120th St. Telephone, 1444 Harlem. S. R.  
 NEW YORK CITY—"The Central," 1684 Broadway, between 52d and 53d Sts. Telephone, 596 Columbus. S. R. C.  
 NEW YORK CITY—John Wanamaker, 140 E. 57th St. Telephone, 1161 38th St. S. R. C.  
 NEW YORK CITY—"Winton," 152 East 58th St. Telephone, 4421 38th St. S. R. Wintons only.  
 NEW YORK CITY—Automobile Exchange & Storage Co., 133-139 West 38th St. Telephone, 5504 38th St. S. R. C.  
 ALBANY—F. G. Robinson, 422 Broadway and 97 Central Ave. S. R. C.  
 BINGHAMTON—R. W. Whipple, 169 State St. S. R. C.  
 BUFFALO—G. H. Poppenberg, 636 Main St. Telephone, Tupper 472. S. R. C.  
 BUFFALO—Buffalo Auto. Exchange, 320 Franklin St. Telephone, Lupper 870. S. R. C.  
 FORT PLAIN—A. A. Miller, 12 Hancock St. Telephone, Bell Long Distance.  
 NIAGARA FALLS—W. H. Davey, 231 First St. Telephone, Bell 336-X. S. R.  
 ONEIDA—Oneida Rubber Tire Works, Cedar and Phelps Sts. Telephone, Bell. S. R. C.  
 FOUCHKEEPSIE—John Van Benschooten, 14-20 Catherine St. Telephone, 39-A. S. R. C.  
 RHINEBECK—J. Vanderlinden. S. R.  
 ROCHESTER—Jos. J. Mandery, 150-170 South Ave. S. R. C.  
 ROCHESTER—Rochester Auto. Co., 150-170 South Ave. Telephone, 3. S. R. C.  
 SCHENECTADY—A. R. Burtiss & Son, 143-152 Jay St. Telephone, 202-D. S. R. C.  
 TROY—James Lucey, 359-361 Fulton St. Telephone, 399-M. S. R. C.



Style "F," Type "4," 16 H.P., 1500 lbs., with detachable tonneau.

The finest creation of the day. The best idea of modern practice, the result of experience. The

## Peerless Motor Car

Built in America. 12 and 16 H.P. Motor. Weight 1250 to 1500 lbs. Three styles of bodies. Three speeds and reverse. Odorless exhaust. Long wheel base. Low center of gravity. Flexible power transmission.

### THE PEERLESS MANUFACTURING CO., Cleveland, Ohio.

Banker Bros. Co., Agents for New York City—Location to be announced. Banker Bros. Co., Agents for Pennsylvania—Pittsburg, Baum and Beatty Sts., East End. Philadelphia: Broad and Vine Sts. Detroit Agent: J. P. Schneider, 187-189 Jefferson Ave., near Woodward, Detroit, Mich.

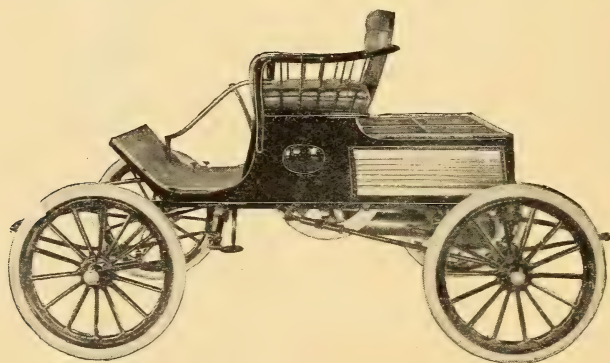
## Make Steaming a Pleasure

THE wisdom of letting "your light so shine" comes to us from biblical times, and its advantages have not lessened in these days of automobiles. Not only, however, must the light of the automobilist shine, but it must heat, and to aid it in doing this in the way that it should, that the combination, burner, generator, pilot light and regulator has been placed upon the market by the Dayton (Ohio) Motor Vehicle Co. Had the steam carriage, from its inception, been equipped with trouble-savers like this, there would have been many less uncalled-for complaints against the disadvantages of steam as motor power.

---

## Aiding the Independent Man

Each day the way of the man who wants to build an automobile according to his own ideas or needs is made easier. Not only is ease of construction advanced, but value of product is also increased by



Dyke's No. 1 Outfit Made up Complete

such people as A. L. Dyke, the pioneer parts supplier of St. Louis. To Mr. Dyke goes the man possessed with original ideas and a bit of mechanical aptitude, and with the parts he there secures the making of the vehicle is so simplified that it becomes a pleasure, not a task, to a man who can handle tools.

---

When you see the patient owner of a refractory vehicle, remember they are patient because they found they had to be. Everyone kicks until satisfied that what he is kicking against is harder than patience.

# AUTOMOBILE RUNNING GEARS, SPUR COMPENSATING GEARS,

SUITABLE FOR STEAM, GAS OR ELECTRICITY

Our running gears are all equipped with our own make of self-contained spur compensating gears. No spreading of Rear Truss. Can supply the trade with Compensating Gears or Running Gears complete. Write for prices.

## Reading Automobile and Gear Company

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WHITE PLAINS—E. P. Horton, 105 Railroad Ave. Telephone, 20 B. R.

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CINCINNATI—Cincinnati Auto. Co., 807-809 Race St. Telephone, Main 2329. S. R. C.  
LIMA—W. E. Rudy, 125 E. Market St. Telephone, 6481. S. R. C.  
COLUMBUS—Avery & Davis. Telephone, 1844. S. R. C.  
COLUMBUS—Oscar S. Lear, 201 S. High St. Telephone, 739. S. R. C.  
DAYTON—Kiser & Co., 29 E. 2d St. Telephone, 1087. S. R. C.  
YOUNGSTOWN—A. E. Bown, 134 E. Federal St. Telephone, 1034. S. R. C.

### OKLAHOMA

EL RENO—I. F. Hensley. S. R. C.

### PENNSYLVANIA

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BETHLEHEM—Lawrence L. Beckel, Novelty Machine & Bicycle Works, 211 S. Main St. S. R.  
BRISTOL—C. R. Thompson, 611-13 Bath St. Telephone, Standard. S. R.  
EASTON—George G. Snyder, 200 S. 3d St. S. R. C.  
HARRISBURG—Kline Cycle Mfg. Co., 12 N. Mkt. Square. Telephone, 642 X. S. R. C.  
PHILADELPHIA—Banker Brothers, Broad and Vine Sts. Telephone, 1-39-11. S. R. C.  
PHILADELPHIA—Quaker City Automobile Co., 304 North Broad St. Telephone, 1-33-83. S. R. C.

PHILADELPHIA—Jas. M. Smith, 3503 Longshore St. Tacony. S. R. C.

PHILADELPHIA—Hart Cycle & Auto. Co., 828 Arch St.

PHILADELPHIA—Parkin & Le Fleur Motor Cycle Co., 2740 No. Broad St. S. R. C.

PHILADELPHIA—H. Bartol Brazier, 1811-15 Fitzwater St. R.

PHILADELPHIA—Jno. Wanamaker, Twenty-third and Walnut streets. Tel. 1-38-65. S. R. C.

PITTSBURGH—Banker Brothers, Baum and Beatty Sts. S. R.

NEW CASTLE—Kirk & Smith. Telephone, Bell 13. S. R. C.

N. WATER GAP—L. W. Pipher. Telephone, Local. S. R.

E. E. PITTSBURGH—Seely Mfg. Co., 139 Beatty St. Telephone, 141 East. S. R. C.

READING—Chas. A. Miller, 33 Wood street. Tel. 138-F. S. R. C.

READING—Duryea Power Co., River St. Telephone, 1422. S. R.

READING—E. S. Youse, 46 N. 5th St. Telephone, 147 C. S. R.

SCRANTON—R. W. Whipple, 520 Spruce St. S. R. C.

WAYNE—R. W. Loundis, 116 E. Lancaster Ave. S. R.

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NEWPORT—Newport Engineering Works, 359-367 Thames St. S. R. C.

PROVIDENCE—H. G. Martin & Co., 196-200 W. Exchange St. Telephone, 2346 Union. S. R. C.

PROVIDENCE—Amer. Cycle Mfg. Co., 15 Snow St. Telephone, 51. S. R. C.

WESTERLY—A. B. Smith. S. R. C.

**\$100**  
**MOTOR**  
**CYCLE**  
**\$125**

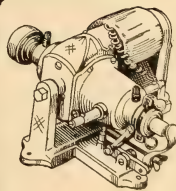
The American Motor Cycle has no superior.

Built for Business

For particulars address

AMERICAN MOTOR CYCLE CO.

Box 39, Rahway, N. J.



To Owners of  
Gas and Gasoline  
Engines, Launches,  
Automobiles, Etc.

Do away entirely with ALL starting and running batteries and their constant trouble and expense by using instead an

## Auto-Sparker.

No belt—no switch—no batteries. Can be attached to any engine now using batteries. Fully guaranteed and costs less than 50 cents per year to operate. Write for descriptive booklet and testimonials.

MOTSINGER DEVICE MFG. CO.

38 Main Street,

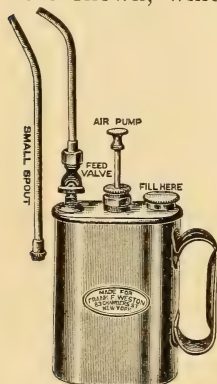
Pendleton, Ind.

**FOR SALE**—Steam Mobile, 1901 Model, good as new in perfect operating condition. Equipped with Kelly generator, electric gauge lights and "Never Out" gas headlight. Cost \$850.00; will sell for \$575.00 f. o. b. cars, East Pittsburg, Pa. Address E. C. H., the Automobile Magazine.



## An Ingenious Oiler

**P**ERFECT lubrication does not begin and end at the choice of the proper material for lubricating. Too many men have thought that it did and paid dearly for their mistaken ideas. The best oil in the world is the poorest possible lubricant when it fails to reach the points where lubrication is needed. The oiler here shown, which Frank F. Weston, 83 Chambers street, New



York, has made for him, comes as near filling the bill of what a perfect lubricator should be as anything we have seen. In this up-to-date oiler a quart of cylinder oil is carried and on top of this oil an air pressure is applied by a small pump, with the very natural result that the pressured oil flows freely through the stem immediately the feed valve is turned. With this oiler it will be readily seen there is no trouble in filling cylinder cups or properly lubricating the working parts of the motor in a very few seconds. Another very apparent advantage to the user is the cleanliness of the device and the fact that the very

heaviest grade of cylinder oil, which produces so much better results, can be used without the slightest inconvenience.

---

## Good Man to Know

To those who are at all familiar with the progress of the automobile industry in this country, the name of Herbert L. Towle is familiar, both as a writer and as a mechanical expert. In future Mr. Towle will be prepared to undertake mechanical draughting, machine designing and gas engine and automobile work in all branches at his new office, 123 Liberty street, New York city. There is need for such men as Mr. Towle and he should experience no difficulty in securing an abundance of clients from among the many who require just such service as Mr. Towle is most competent to give.

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## Not So Strange as It Seemed

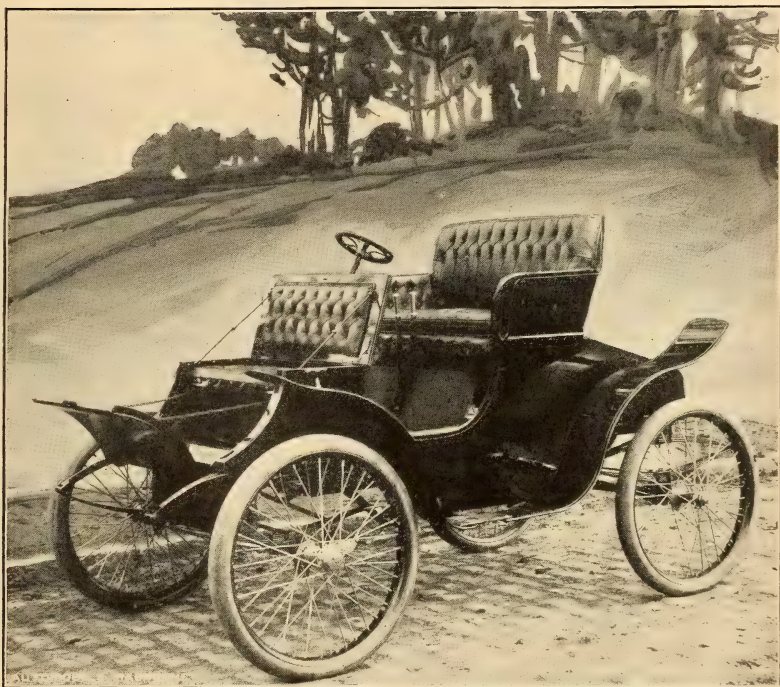
Mrs. Riggs—Isn't it strange that the life insurance company should cancel your policy just when it did?

Mr. Riggs—Yes, indeed, considering the fact the agent came to my office the other day trying to induce me to take out another \$5,000. I told him to wait. I had to step across the street to look at a new \$350 automobile I'd bought, but when I came back he was gone.



## Ramblers Are Ready

THE very unusual favor which has been given the Rambler vehicles has been a source of surprise to the few people who were unacquainted with the reason therefor. The public's belief in the Rambler automobile is begotten of an acquaintance extending over 25 years with designer and maker, Thomas B. Jeffery, and the high class of work he has always turned out. When at the end of three years' experimentation Mr. Jeffery announced that he was prepared to place upon the market a gasolene vehicle which he guaranteed to be good enough to be called the Rambler,



St. Louis Motor Carriage Co.'s 8 h. p. Boston Model

the public did not ask for anything more, but promptly snapped up all he had on hand, and then, like Oliver Twist, clamored for more. With an output of five complete vehicles each day the Jeffery plant at Kenosha, Wis., stands ready to see that, despite the public's unusual demand, no friend of the Rambler is forced to wait for his vehicle until he no longer wants one. The reputation of Thomas B. Jeffery & Co. is a sufficient guarantee that any promises of delivery made by the company will be kept without any question.

## The Birthplace of the American Automobile

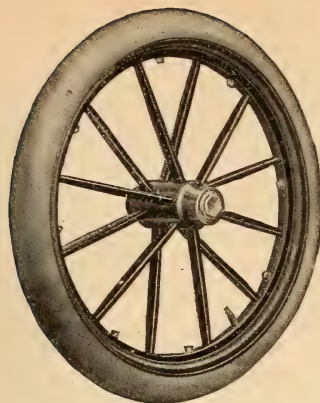
**I**N the beginning of the creation of the automobile world the star of the east and of progress stood over Kokomo, Indiana, and it was here that the first or nearly the first automobile was constructed. A clever graduate of the famous Worcester Polytechnic, Mr. Ellwood Haynes, was responsible for the establishing of a company now known throughout the world as The Haynes-Apperson Company. The extent of the Haynes-Apperson plant, two views of which are here shown, would surprise most people, and yet it is only the natural result of the growth of this popular firm's business, owing to their making and marketing from the very beginning a first-class article and nothing else.

The first thing that impresses the visitor on entering the Haynes-Apperson office and the adjoining factory, is the busy appearance of things which show an active management and a full



drive of power. Only recently the company has completed the factory addition here shown wherein the floor space is 277 by 75 feet. One of the great advantages of the plant is that the owners are enabled to do their brazing and hardening by natural gas, which is said to be not only cheaper but to be productive of unequaled tempering and superior brazing. As a fair example of the unusual advantages enjoyed by the Haynes-Apperson Company, it may be noted that the factory's power is supplied by two large gas engines, the natural gas for which costs only \$2 per month each.





MIDGLEY

# Tubular Steel Wheels

The only wheel specially designed and constructed for the combined DRIVING and CARRYING of the load; will not dish, crush or buckle. Unquestioned strength, combining endurance and elegance of finish. Let us inform you fully regarding this, the COMING WHEEL.

Write for Booklet

**THE MIDGLEY MFG. CO.**

K FRANKLIN PETERSON,

COLUMBUS, OHIO, U.S.A.

165 Lake St., Chicago, Western Sales Office.

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43 Columbus Ave. Telephone, Tremont  
616. S. R. C.

BOSTON—H. B. Shattuck & Son, 239 Co-  
lumbus Ave. S. R. C.

BROCKTON—W. H. Marble, 52 High St.  
Telephone, 353-2. S. R.

CAMBRIDGE—Harvard Auto. Co., 8-10 Pal-  
mer St. Telephone, 72-2 Camb. S. R. C.

CANTON—J. E. Kelley. S. R. C.

CLINTON—Clinton Mch. Works, 460 High  
St. Telephone, 153-5. S. R.

CONCORD—John McKuyer. Telephone, 14-5.  
S. R. C.

DORCHESTER—Barden Cycle Co., 232 Adams  
St. S. R.

FRANKLIN—Franklin Cycle Co., Central  
Sq. S. R. C.

HUDSON—F. D. Knight & Son, 49 Church  
St. R.

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ephone, 9154-13. S. R.

MEDFIELD—James Orel.

MEDFORD—F. H. Greaney, 60 Park St.; 439  
High St., W. Medford. Telephone, 27-3  
Medford. S. R. C.

NEWTONVILLE—Fred J. Read, 821 Wash-  
ington St. Telephone, 326-3. S. R.

NO. ATTLEBORO—John P. Ballou, 175  
Washington St. S. R. C.

PLYMOUTH—G. E. Rounds. Telephone,  
205-3. S. R. C.

ROXBURY—Wilson Ourish, 470 Blue Hill  
Ave. Grove Hill. Telephone, Rox. 55.  
S. R. C.

SO. FRAMINGHAM—Chas. F. Whyte, 17 &  
19 Irving St. R.

SPRINGFIELD—Springfield Auto. Co., 60  
Main St. Telephone, 853-4. S. R. C.

SPRINGFIELD—Locomotive Agency, Main  
St. S. R.

STOUGHTON—James Lehan, Lehan's Bldg.  
Telephone, 38-4 and 38-7. S. R. C.

WALTHAM—Harvard Auto Corporation. S.  
R.

WESTFIELD—Loomis Automobile Co. S.  
R. C.

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GRAND RAPIDS—Louis C. Howard, 35 N.  
Division St. Telephone, 2195 City. S. R. C.

MUSKEGON—Dr. C. J. Dove. S. R. C.

MENOMINEE—D. F. Poyer, 518 Main St.  
Telephone, 126. S. R. C.

GRAND RAPIDS—Adams & Hart.

**MINNESOTA**

MINNEAPOLIS—Great Western Cycle Co.,  
601 First Ave. Telephone, 1929 Main. S.  
R. C.

**MISSOURI**

ST. LOUIS—R. J. Leacock Supply Co., 711  
Pine St. S. R. C.

KANSAS CITY—Day Auto. Co., 1407 So. 12th  
St. Telephone, 1742 Main. S. R.

ST. LOUIS—Halsey Auto. Co., 4259-65 Olive  
St. "Both 'Phones." S. R. C.

ST. LOUIS—Day Auto. Co., 1010 Olive St.  
Telephone, Bell, Main 1310. S. R.

**NEW JERSEY**

ATLANTIC CITY—Arthur Boyce, 1735 Atlan-  
tic Ave. Telephone, 113-F and 766-F. S. R.

BRIDGETOWN—Jacob R. Elwell. R.

BURLINGTON—Gray Mfg. Co., 1116 Main St.  
S. R.

EAST ORANGE—John M. Schmidt, 22 Rail-  
road Pl. Telephone, 1504 E. O. S. R. C.

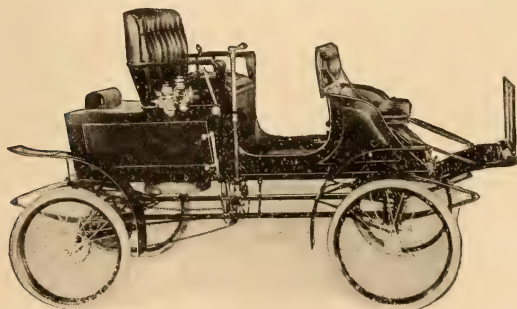
EGG HARBOR—Jacob Wimberg. Telephone,  
Bell. S. R. C.

HACKENSACK—Davison Eng. Co., Main and  
Bridge Sts. Telephone, 175-1. S. R. C.

Main St. S. R. C.

HACKENSACK—Wood & Bedly, 311 and 313  
Main St. S. R. C.

HACKETTSTOWN—M. S. Neighbor, Hope  
St. (King Bldg.). S. R. C.



Wheel Base 68 inches.

Weight 1000 lbs.

Carry 2 or 4 Passengers.

## Prescott Touring Car

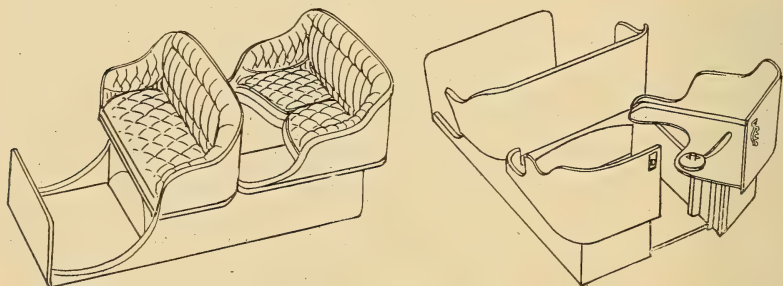
Two Double Acting Brakes on Rear  
Hubs; Heavy New Design Running  
Gear; American Roller Bearings;  
Large Fuel and Water Capacity; New  
Indestructible Burner; Pilot Light  
Never Blows Out; Superheated  
Steam Doubles the Mileage of Water;  
Economy of Fuel; Encased Engine;  
Automatic Lubricator.

SEND FOR CATALOGUE

**Prescott Auto Co.**  
83 Chambers St., New York

## Best Kind of Proof

**I**T is an extremely easy thing to claim superiority for your goods, it is quite another thing, however, to prove it. The G. & J. tire people are extremely lucky in being able to prove that the claims for the superior running qualities of the G. & J. tire are facts not mere claims. The way this proof was given was as simple as it was convincing. Two electric vehicles of same make and of identical construction, one equipped with G. & J. detachable tires, the other with high grade tires of another make, were tested in a mile run (ten city blocks), both vehicles were set to run at the same rate of speed. Result—the machine fitted with G. & J. tires distanced its competitor four blocks. In order to be sure that the test was a fair one, the wheels on the two vehicles were transposed—the wheels fitted with G. & J. tires being placed on the vehicle that was dis-



Merely a Suggestion on Body Construction

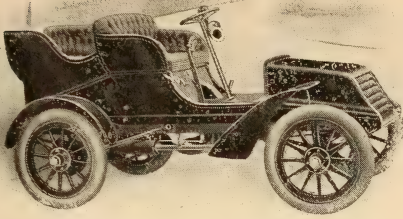
tanced in the first test, and vice versa. The vehicles were again set to run at an equal rate of speed, and at the finish of the mile the G. & J. tires on the former losing vehicle had left the former winning one just four blocks behind.

## Produced by Pioneers

**T**HE founders of the Buffalo Automobile & Auto-Bi. Company were among the very first to recognize the coming demand for a light weight, moderate priced motor vehicles. Not content with this recognition, the company headed by E. R. Thomas, were the pioneers in providing such vehicles, and have therefore a longer experience in their particular line than any other American makers. The natural result is that under the skilful guidance of E. B. Olmsted, general manager, the Buffalo productions are models of their kind, in both design and construction, and well worthy of the prompt recognition and endorsement the public has accorded them.



## WINTON TOURING CAR



Touring Car—Price \$2,000

## THE WINTON MOTOR CARRIAGE CO., Cleveland, U.S.A.

BRANCHES AND AGENCY DEPOTS THROUGHOUT THE COUNTRY.

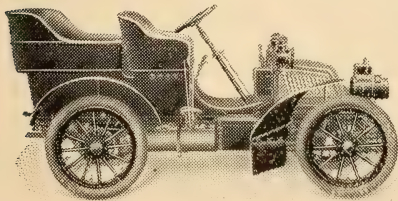
### NEW JERSEY—Continued

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**NEW YORK CITY**—Manhattan Automobile Co., 62 West 43d St. Telephone, 4138 38th St. S. R. C.  
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## They Are All Right Either Way

**T**HAT "Munger Tires" can be used in a deflated condition without injurious results was conclusively demonstrated in a recent run from New York to Philadelphia and return. With a vehicle weighing 2,700 pounds and equipped with 32-inch by 3-inch Munger tires on front wheels and 36-inch by 4-inch on rear wheels, the tires were deflated before the start and had no attention whatever during the entire trip. At the conclusion they were inflated to a pressure of 150 pounds to the square inch, showing no leakage, nor was there any noticeable wear on any part of any one of the four tires. What makes the test all the more conclusive is that this particular set of tires has been in constant use since last May, covering in that time nearly 7,000 miles, with every indication of outlasting the vehicle on which they are being tested.

That automobilists who have suffered the annoyance and expense incident upon the hard service of driving, stopping and starting motor vehicles, appreciate the many excellent features embodied in Munger Tires, is evidenced by the great number of vehicles now being fitted with them by owners who have been through the mill and been ground in a manner expensive, but not pleasant.

---

## Little, But a Winner

Some people, who are inclined to think without making any effort to see how near they come to thinking correctly, have become possessed of the very erroneous idea that because the Oldsmobile was not a big, heavy vehicle it was not a stayer. One of the results of the recent Long Island Endurance test was some very convincing evidence as to the fallacy of this idea, since an Oldsmobile under the clever guidance of R. M. Owen not only did the fastest hill climb in its class, but finished its hundred miles in 6 hours and 58 minutes, thereby earning the much coveted blue ribbon. In making this remarkable run of 100 miles the little Western wonder consumed three gallons of gasoline, evaporated two quarts of water and used only one-half of an oil cup of lubricating oil. Although this run was to test primarily the running power of motor vehicles, it also demonstrated the practicability, endurance and economy of this little Detroit runabout in a way which leaves no room for doubt that it is as good as it is popular—and that is the limit.

---

## Prejudicing a Possible Purchaser

Manager—You fool! That man was an editor!

Salesman—Well, what of that?

Manager—How could you expect to sell him a carriage when you kept telling him that automobiling was the "poetry of motion?"

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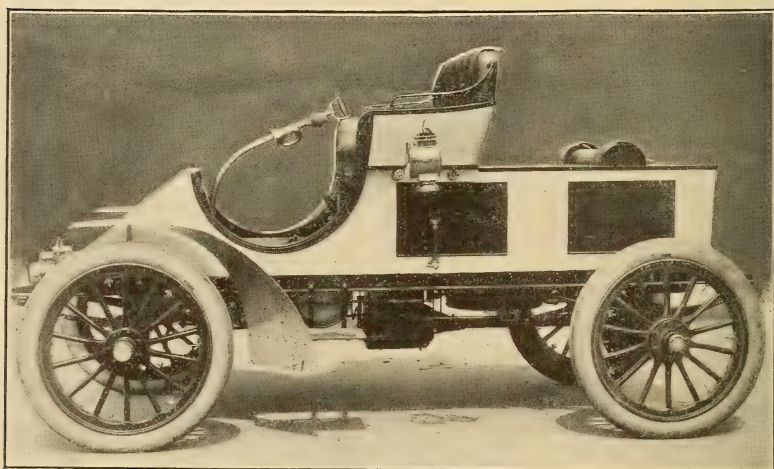
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## The King and the Ribbon

**Q**UICK to perceive the trend of popular fancy for the foreign type of vehicle the Century Motor Vehicle Co. of Syracuse, have put aside the old runabout type of touring vehicle and substituted therefor the one here shown. When this vehicle started in the Long Island Endurance contest it had not been run a hundred miles all told, but so convinced was its designer, Manager William Van Wagoner, that it would give a satisfactory account of itself that he started as confidently with the untried vehicle as he would with one whose construction had been given more ex-



haustive tests. That the confidence shown in the "Silver King," for so was the vehicle named, was not misplaced is best proven by the blue ribbon it was awarded.

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The value of a reliable air pump has never been underestimated by the automobile owner and the need of such a useful requisite is always present. The Gleason-Peters Air Pump Co., of New York, won their reputation as air pump makers long ago, not only in America, but Europe, Asia and all other places where a good air pump is needed for numerous purposes. The Gleason-Peters Company make hand and power pumps at their Houston and Mercer street factory, as well as an automobile foot alarm of splendid quality and exceedingly ingenious construction.



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**S. R. C.**—Store, repair and charge all makes.

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When only special kinds are handled it will be so stated.

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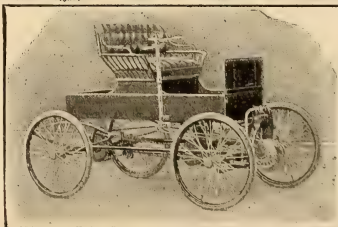
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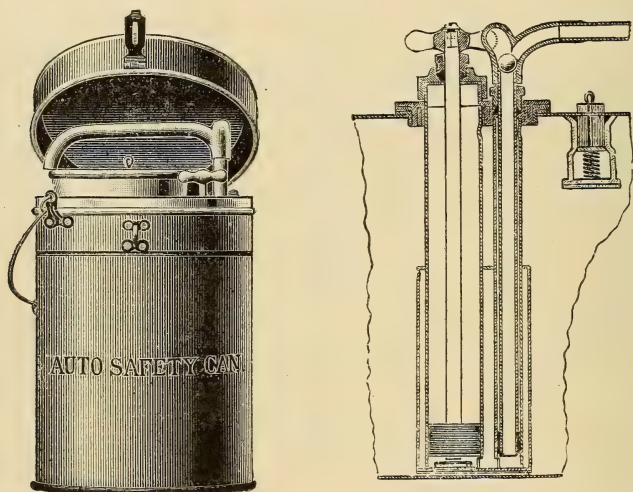
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The pumping apparatus shown is included in the can, which is absolutely vapor tight. The parts are few in number and easily accessible for inspection or cleaning. An ingenious funnel is supplied for filling the tank, and it is so placed that it does not in any way project so as to take up additional space. The joint between the funnel and tank is absolutely vapor tight so that leakage is made impossible. The funnel saves the loss of fuel which usually occurs from filling a tank without some appliance of this kind.



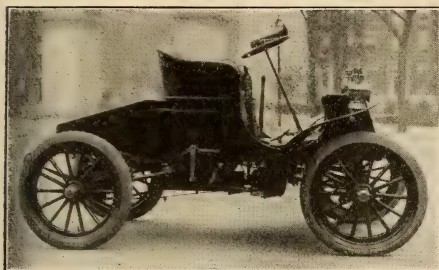
These tanks are made in any shape or any size to order, independent of the standard sizes of 3, 5 and 10 gallons capacity. The success of the Hall Co. with this ingenious oil conveyance indicates a great demand for it. No more convincing evidence of the can's safety and efficiency is needed than the fact that it has been approved as satisfactory by the New York Board of Fire Underwriters, who are not any too kindly disposed to the extended use of inflammable oils brought about by the popularity of the automobile.

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Brought strictly up-to-date and are the acme of simplicity and reliability. We make no attempt to compete on price. If you are interested in this kind of a carriage, write us, or better

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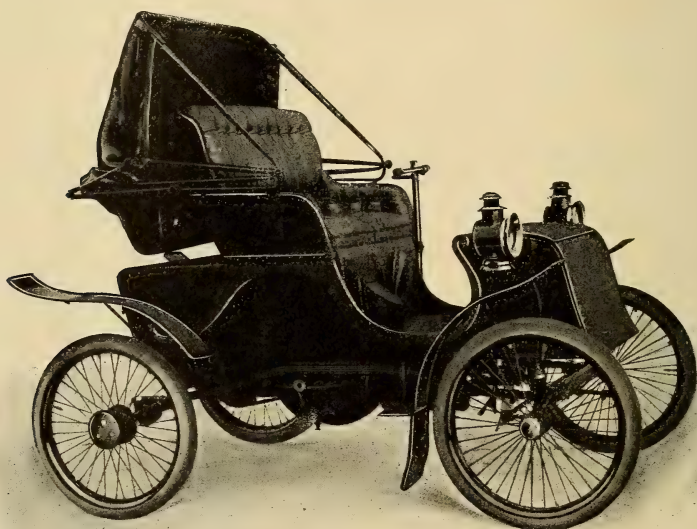
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## Knox's Winning Waterless

**H**OWEVER much men may differ as to the absolute need of water when it comes to cooling off themselves, there are few who will not agree that when it comes to doing the same thing with motors water can easily be dispensed with—if air can be made to do its work. That many have tried to make the cooling of gasoline engines something which would not demand a constant replenishing of a water jacket is true; that most of those who thus tried have failed is equally true, but that does not prove that air cooling cannot be made a success. That such is not the case is most conclusively proven by the success of the vehicle here shown, whose makers, the Knox Automobile Co., of Springfield, Mass.,



have certainly demonstrated under all conditions of wind and weather, road and use that such an air cooled motor as they equip the Knoxmobile with does its work as well as a water jacketed one, with none of the latter's cumbersomeness and bother.

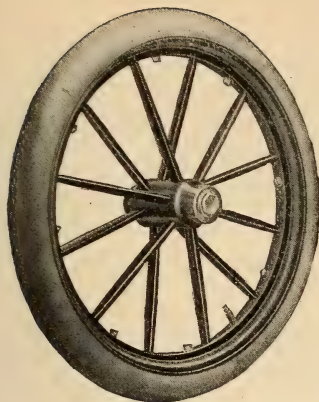
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The uninterrupted success of the American Dunlop tires must be gratifying to the makers, the Hartford Rubber Works. President Harper has a strong pair in the Hartford Single Tube and the Dunlop Double Tube Detachable. The high quality of the goods turned out by the Hartford people and the courteous and business-like methods of the officers make this concern justly popular with both its customers and friends.

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A weak motor soon proves that nature fell down when she failed to so arrange the earth's gradients that the under-powered automobilist could coast all the time and not climb any.



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The only wheel specially designed and constructed for the combined DRIVING and CARRYING of the load; will not dish, crush or buckle. Unquestioned strength, combining endurance and elegance of finish. Let us inform you fully regarding this, the COMING WHEEL.

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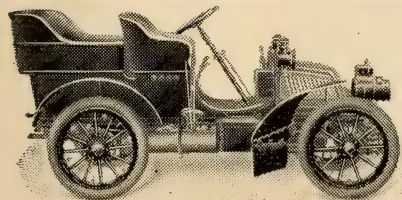
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SPRINGFIELD—Headquarters, 36 Dwight St. Telephone, 1130. S. R. C.  
SPRINGFIELD—Nat. Auto. Supply Co., 226 Worthington St. Telephone, 819-3. S. R.  
SPRINGFIELD—Springfield Auto. Co., 60 Main St. Telephone, 853-4. S. R. C.  
SPRINGFIELD—Locomobile Agency, Main St. S. R.  
STOUGHTON—James Lehan, Lehan's Bldg. Telephone, 38-4 and 38-7. S. R. C.  
WALTHAM—Harvard Auto Corporation. S. R.  
WESTFIELD—Loomis Automobile Co. S. R. C.  
WORCESTER—Worcester Automobile Co., 30 Exchange St. Telephone, 1444. S. R. C.  
WORCESTER—Worcester Automobile Station No. 1, 43 Foster St. Telephone, 659-4. S. R.  
WORCESTER—Birney A. Robinson, 671 Main St. Telephone, 1550. S. R. C.

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GRAND RAPIDS—Louis C. Howard, 35 N. Division St. Telephone, 2195 City. S. R. C.  
MUSKEGON—Dr. C. J. Dove. S. R. C.  
MENOMINEE—D. F. Poyer, 518 Main St. Telephone, 126. S. R. C.  
GRAND RAPIDS—Adams & Hart.

#### MINNESOTA

MINNEAPOLIS—Great Western Cycle Co., 601 First Ave. Telephone, 1929 Main. S. R. C.



16 H. P., with Detachable Tonneau.

### THE PEERLESS MANUFACTURING CO., Cleveland, Ohio.

AGENTS:—NEW YORK CITY—Banker Bros. Co., 250 West 80th Street. PITTSBURG—Banker Bros. Co., Baum and Beatty Sts., East End, for Pennsylvania. PHILADELPHIA—Banker Bros. Co., Broad and Vine Streets. DETROIT—J. P. Schneider, 187-189 Jefferson Ave., near Woodward. BUFFALO—Ellicott Evans, 84 White Bldg. TORONTO—Canada Cycle and Motor Company, Ltd., 34 King Street, West, for the Dominion of Canada. BOSTON—F. E. Randall, 245 Columbus Ave., for New England. TOLEDO—Wilson & Co., 811 Jefferson Avenue.

## The Peerless Motor Car

BUILT IN AMERICA  
FOR AMERICAN ROADS

Thoroughly Satisfactory, Comfortable,  
Elegant, Impressive.  
Low Center of Gravity with ample road clearance.  
Long Wheel Base with Even Distribution of Weight.  
Vertical Motors in front, Reliable and Accessible.

## The Pump that Pumps

**T**HERE is reason in all things, even in a pump. The owner of an automobile, who may prior to his horselessness not have believed this, soon changes his opinion once he becomes an interested observer of the pump which pumpeth naught but nothingness. The Reason Automobile Air Pump Co., of Detroit, Mich., have seemingly met and overcome the faults of the pumps that fail, and in a very ingenious little piece of mechanism have made the act of pumping something which the owner of an automobile is no longer a sufferer from. In seven pounds of metal the Reason people seem to have compressed all the virtues possible to get into a pump with the result that the purchaser not only saves fuel, but gains at the same time uniform steam pressure, convenience and comfort as well.

---



Mohler & DeGress 6 H.P.

## Half and Half in Tires

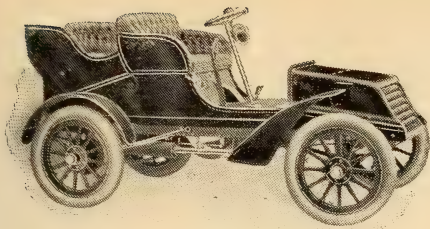
Foreign experiments with solid tires on the rear and pneumatic ones on the front wheels of automobiles have proved satisfactory. On ordinary roads no loss in comfort or speed is experienced, while upon hills the advantage of the half and half equipment, it is said, becomes at once apparent, the vehicles so shod being able to surmount grades which they could not negotiate when using pneumatics upon all four wheels.

---

## Cures Groans and Perfects Brushes

Those who have had troubles with dynamos on automobiles on account of brushes, would do well to test Dixon's graphite brushes. Those who have tried them have been greatly pleased at the results. The Editor has found Dixon Graphite an effectual remedy for stiff valves and groaning pistons in a steam automobile.





WINTON TOURING CAR

## WINTON

*Gold Medal (first award) in the  
Official Speed Trials.*

*Silver Cup (first award) in the  
Official Hill Climbing Trials.*

*Blue Ribbon (first award) in the  
Official 100 Mile Non-Stop  
Endurance Trials.*

It contains the simplest, most practical and  
best constructed motor manufactured or sold  
in America.

OUR NEW CATALOG SENT UPON REQUEST

**THE WINTON MOTOR CARRIAGE CO., Cleveland, U.S.A.**

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ST. LOUIS—R. J. Leacock Supply Co., 711  
Pine St. S. R. C.  
KANSAS CITY—Day Auto. Co., 1407 So. 12th  
St. Telephone, 1742 Main. S. R.  
ST. LOUIS—Halsey Auto. Co., 4259-65 Olive  
St. "Both 'Phones." S. R. C.  
ST. LOUIS—Day Auto. Co., 1010 Olive St.  
Telephone, Bell, Main 1310. S. R.

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ASBURY PARK—C. R. Zacharias, 725 Mat-  
tison Ave. Telephone, 40F. S. R. C.  
ATLANTIC CITY—Arthur Boyce, 1735 Atlan-  
tic Ave. Telephone, 113-F and 766-F. S. R.  
BERLIN—Townsend Dowd. Telephone, 8X.  
BRIDGETOWN—Jacob R. Elwell. R.  
BURLINGTON—Gray Mfg. Co., 1116 Main St.  
S. R.  
EAST ORANGE—John M. Schmidt, 22 Rail-  
road Pl. Telephone, 1504 E. O. S. R. C.  
EGG HARBOR—Jacob Wimberg. Telephone,  
Bell. S. R. C.  
HACKENSACK—Davison Eng. Co., Main and  
Bridge Sts. Telephone, 175-I. S. R. C.  
Main St. S. R. C.  
HACKENSACK—Wood & Bedly, 311 and 313  
Main St. S. R. C.  
HACKETTSTOWN—M. S. Neighbor, Hope  
St. (King Bldg.). S. R. C.  
HOBOKEN—Meyer, V. F., 520 Washington  
St. Telephone, 117-B Hoboken. S. R. C.  
JERSEY CITY—Crescent Cycle & Automobile  
Co., 548 Communipaw Ave. Telephone,  
1252 Bergen. S. R. C.  
JERSEY CITY—D. W. Romaine, 70 Erie St.  
Telephone, 1559 F. S. R. C.  
JERSEY CITY—Geo. A. Smythe, 2926 Boule-  
vard. S. R.  
LAKEWOOD—Jos. B. Hoff, Main St., foot of  
Lex Ave. Telephone, 125B. S. R. C.  
MORRISTOWN—Willis H. Dretton, 24 Wash-  
ington St. Telephone, 173. S. R. C.

NEWARK—New Jersey Automobile  
Co., 8 Central Ave. Telephone, 734  
Newark. S. R. C.

NEWARK—The Automobile Company, 79  
Orange St. Telephone, 799. S. R. C.

NEWARK—J. W. Geissler, 46 William St.  
S. R. C.

NEWARK—L. Lawrence, 241 Halsey St. S.  
R. C.

NEWARK—Lewis J. Worth, 26-28 William  
St. S. R. C.

NEWARK—Koehler Sporting Goods Co., H.  
J., 845 Broad St. Telephone, 2864 Newark.  
S. R. C.

NEWARK—C. S. Calvert, 141 Halsey St. Tel-  
ephone, 3714. S. R. C.

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Albany St. S. R. C.

NEW EGYPT—Chafey & Brown. S. R. C.

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Ave. Telephone, 206 B. Passaic. S. R.

PATERSON—Stockbridge, F. W., Broadway &  
18th St. Telephone, 2433 Paterson. S. R.  
C.

RED BANK—Geo. H. Patterson, 8 Froad St.  
S. R. C.

RIDGEWOOD—S. B. Hagerman, Bergen Co.  
S. R. C.

SEABRIGHT—H. L. Zobel, Jr. Telephone,  
26-B. S. R. C.

SOUTH ORANGE—W. L. Mead, 275 Ridge-  
wood Road. G.—Repair.

SUMMIT—C. C. Henry. R.

SWEDESBORO—Chas. Hall. S. R.

VINELAND—C. W. Pearson, N. 6th St. Tel-  
ephone, 35 Interstate. S. R.

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R. C.

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WATER COOLED, FOUR CYCLE, UPRIGHT GASOLINE MOTORS. TWO  
AND FOUR CYLINDER TYPE. FROM 3 TO 60 H.P. FOR AUTOMOBILES  
AND LAUNCHES. FROM 10 TO 150 H.P. FOR STATIONARY PURPOSES.

**Also Automobiles of Every Style,  
Delivery Wagons, Omnibuses and Auto Trucks**

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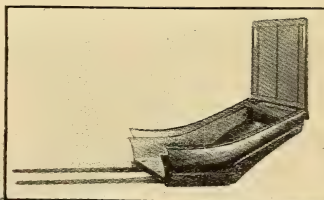
ROOM 207

## Successful Kerosene Burner at Last

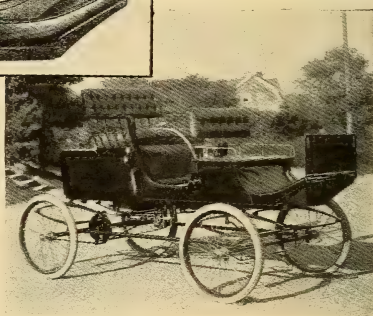
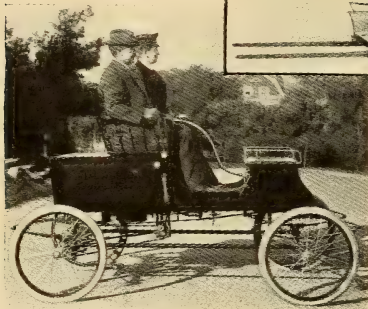
**N**O one can deny that the difficulty of securing satisfactory gasoline away from populous centres has been one of the greatest drawbacks to its use by automobilists, even when the question of the price of the fuel was not an object. To burn kerosene noiselessly, without smoke or smell, has been the thing sought for, but which has not been so easily found. The International Motor Car Co., of Toledo, announce that they are now prepared to fit a perfect kerosene burner to any of their Toledo carriages at no extra expense to the purchaser, if he stipulates the kerosene burner when ordering his carriage. Nine gallons of kerosene with the I. M. C. Co.'s new burner has with barely thirty pounds of pressure been sufficient to propel a Toledo carriage over 100 miles.

## Doubles the Seating Capacity

Appliances intended for increasing the carrying capacity of a vehicle have not proven altogether unsuccessful, but the roominess thus gained has tained only at a pearances. The tell the story of result has been se-



usually been at-sacrifice of all ap-pictures herewith where the desired cured without it



being possible for the ordinary observer to detect that the extension is only a temporary affair. J. F. Hathaway, West Somerville, Mass., is the ingenious inventor of the idea.

## An Unusually Cheap Tire

When a guaranteed air-tight pneumatic automobile tire can be made and sold at a profit for \$10, then, verily, the golden days of automobiling are indeed come to pass. The Post & Lester Co., who elsewhere in this issue make an offer to do this, are a responsible concern, and one whose word can be accepted without any hesitancy; were it otherwise, one would be tempted to think that the price asked robbed the tire of having any possible value. As it is, those who are looking for a real bargain surely should be able to find one in this \$10 tire.

When the public has faith in a manufacturer it is based upon good works.



# Beauty Strength Quality Workmanship

Is found in our Reachless Gear. Five styles for 600 to 3,000 pound vehicles. **We will not compete against cheap goods** which are in the long run costly to purchasers. ... **We furnish our Duplex and Compound Engines and guarantee them.** Complete vehicles, less power, also made

Prompt Shipments.

Send for Particulars.

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BOSTON—Columbus Automobile Exchange, 147 Columbus Ave. S. R. C.  
BOSTON—Winton Motor Carriage Co., 41 Stanhope St. S. R.  
BOSTON—Winton Motor Carriage Co., 41 Stanhope St. Telephone, 776 Columbus. R. S.  
BOSTON—Columbus Automobile Exchange, 147 Columbus Ave. Telephone, 388-2 Tremont. S. R.  
BOSTON—Automobile Headquarters, 66 Stanhope St. Telephone, 842-2 Tremont. S. R. C.  
BOSTON—Park Square Auto. Station No. 1, 43 Columbus Ave. Telephone, Tremont 616. S. R. C.  
CAMBRIDGE—H. B. Shattuck & Son, 239 Columbus Ave. S. R. C.  
CAMBRIDGE—Harvard Auto. Co., 8-10 Palmer St. Telephone, 72-2 Camb. S. R. C.  
CANTON—J. E. Kelley. S. R. C.  
CLINTON—Clinton Mch. Works, 460 High St. Telephone, 153-5. S. R.  
CONCORD—John McKuyer. Telephone, 14-5. S. R. C.  
CONCORD—John M. Keyes, Monument St. Telephone, 41-6 and 14-5. S. R. C.  
DORCHESTER—Barden Cycle Co., 232 Adams St. S. R.  
FRANKLIN—Franklin Cycle Co., Central Sq. S. R. C.  
HUDSON—F. D. Knight & Son, 49 Church St. R.  
MARLBORO—Marlboro Auto & Car Co. Telephone, 9154-13. S. R.  
MEDFORD—F. H. Greaney, 60 Park St.; 439 High St. W. Medford. Telephone, 27-3 Medford. S. R. C.

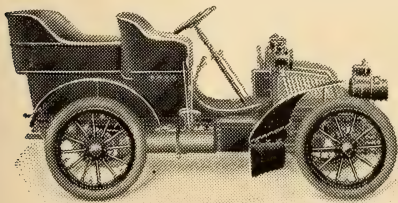
NEWTONVILLE—Fred J. Read, 821 Washington St. Telephone, 326-3. S. R.  
NEWTON HIGHLANDS—Woodworth Bros., 2 Hartford St. Telephone, 153-3. S. R.  
NO. ATTLEBORO—John P. Ballou, 175 Washington St. S. R. C.  
PLYMOUTH—G. E. Rounds. Telephone, 205-3. S. R. C.  
ROXBURY—Wilson Ourish, 470 Blue Hill Ave. Grove Hill. Telephone, Rox. 55. S. R. C.  
SO. FRAMINGHAM—Chas. F. Whyte, 17 & 19 Irving St. R.  
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*The* **Peerless Motor Car**

**BUILT IN AMERICA  
FOR AMERICAN ROADS**

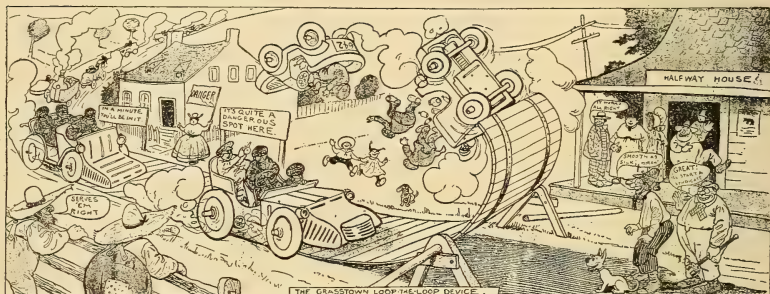
Thoroughly Satisfactory, Comfortable,  
Elegant, Impressive.  
Low Center of Gravity with ample road clearance.  
Long Wheel Base with Even Distribution of Weight.  
Vertical Motors in front, Reliable and Accessible.  
Genuine De Dion Spark Plugs and Batteries.



## Private Electric Plants

**N**OTHING has retarded the sale of the electric vehicle so much as the disinclination of automobilists to own a conveyance the power to run which had always to be purchased from some one else. In the cities and larger towns, where charging plants were at hand, many electrics have been sold, but when it came to rural localities the choice of such a motive power has not been deemed advisable. With a plant like the one here shown a man can not only light his house, but charge his automobile at comparatively no expense, bother or attention once he has installed his own electric generating and storing system. The introducers of this inexpensive method of generating light and power, Messrs. Jantzen & Campion, 267 West Thirty-ninth street, New York City, guarantee it will do all that they promise, and they are prepared to submit plans for private electric plants at prices which are very much below what the general public think such things cost. With such economical supplies of electric power as these plants seem to be the possibilities of the electrically propelled vehicle are extended to a degree which only a short time since would have been deemed impossible.

## A Western Scorcher Discourager



—From *Kansas City World*.

## Quick Firer for Steamers

Have you ever had occasion to bless the man who invented the steam motored vehicle, and failed to provide his invention with some method of quickly getting up steam? You need not in the future waste time and expletives upon the man whose lack of ingenuity robbed you of the pleasure which automobiling should give. Thanks to a simple little contrivance made by J. F. Hathaway, a West Somerville, Mass., sufferer from the need of a quick and ever ready steam starter, the owner of a steam vehicle can now afford to laugh at his friend of the gasoline persuasion when he sees him toying with the crank before getting under way. The Hathaway idea has the right of way when it comes to eliminating from the steam vehicle one of its greatest drawbacks.

## Enthusiasm vs. Commercialism

"I can't express my satisfaction with my new runabout," wrote the enthusiastic automobilist to the maker of the vehicle upon its receipt."

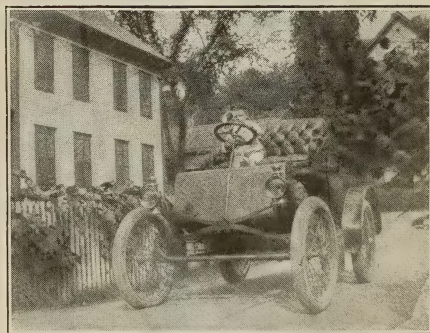
"Use signs—\$\$\$," was the reply which came from the maker, he not having been paid in full for the satisfactory runabout aforementioned.

U. S. PATENT OFFICE. FEB 27 1902

# THE AUTOMOBILE MAGAZINE

EDITED BY  
ANGUS SINCLAIR

MARCH, 1902



Beginning his Education Properly.

174 BROADWAY, NEW YORK, U. S. A.



# SMITH-MABLEY,

513-515 Seventh Avenue,

Between 37th and 38th Streets,

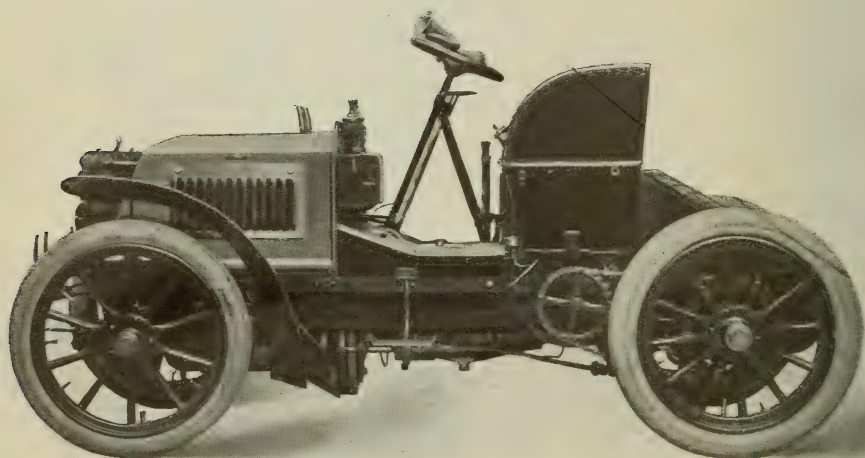
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F. CHARRON, GIRARDOT & VOIGT,

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PANHARD RACER.

## HIGHEST GRADE Imported Automobiles

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Speed at Hand when Required.

Comfort, Endurance, Reliability  
for Long Distance Touring.

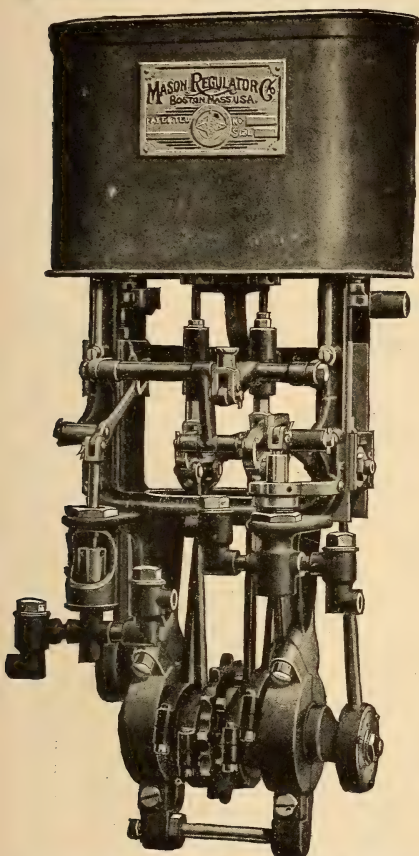


*The*  
**Time-Tested**

**"MASON"**

is the most successful

**AUTO  
ENGINE**

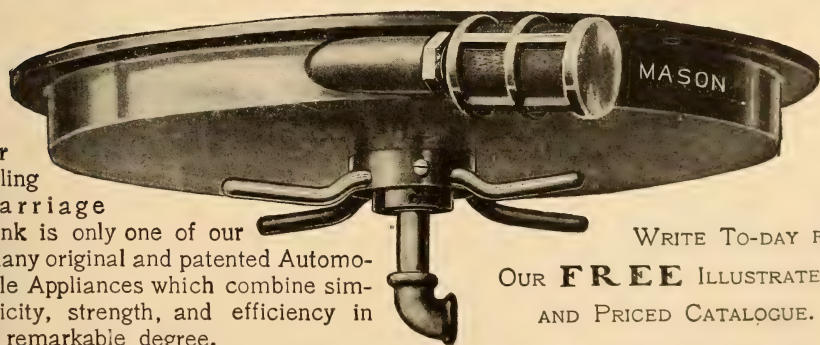


on the market from every standpoint. It runs the smoothest, withstands the hardest usage, and wears the evenest of any engine made. The "Mason" is the standard, unexcelled and unapproached by any other, and because of its absolute reliability is used on

*Fully One-Half of  
the Autos Built in the  
United States.*

It is the product of long practical experience, and the user of a Mason Auto Engine never has to be "towed in," but always goes over the route with ease and security. Use a "Mason" once and you will use it always.

**THE MASON HOSE REEL**



for  
filling  
carriage  
tank is only one of our  
many original and patented Automobile Appliances which combine simplicity, strength, and efficiency in a remarkable degree.

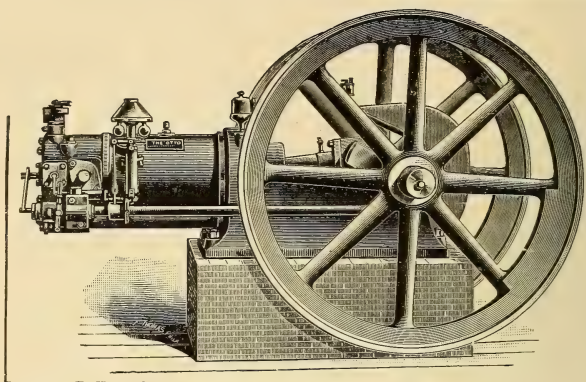
WRITE TO-DAY FOR  
OUR **FREE** ILLUSTRATED  
AND PRICED CATALOGUE.

**The Mason Regulator Co.,**  
158 Summer St., BOSTON.

(KINDLY MENTION THIS PAPER.)

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purpose  
let us know  
just what  
you want.



## Otto Gas & Gasoline Engines

are known the world over as the cheapest, best and most reliable power you can use.

YOU CAN DEPEND ON THE "OTTO."

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## Tropenas Department

Steel Castings, 25 pounds and under.

Estimates given on not less than 100 from each pattern.

## The Sargent Company



## USE THE HAYNES- APPERSON Automobile.

WE have won every contest in which we have entered, with every machine used. Not one failure mars our record. This is not true of any other make in the world. All other makes that have won anything at all have had other machines fail in the same contests. These failures are as significant as their successes.

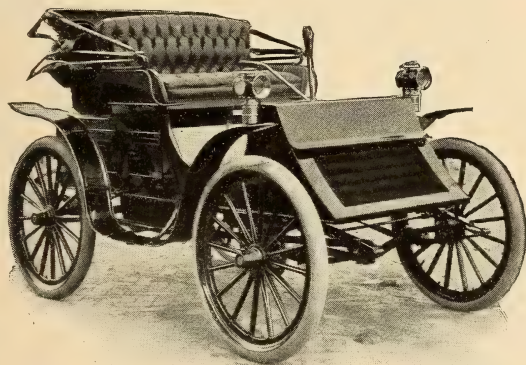
Both our machines in the New York-Buffalo Run won first place, with fastest time of any machines built in America.

Long Island Test, 100 miles without a stop—won easily in a driving storm.

Two Track Races, Fort Erie and Detroit, won first place and Silver Cups, in faster time than the high power classes.



**SURREY. 9 H.P. 36 In. Wheels. 2,000 Lbs. \$1,800.**



**PHAETON. 9 H.P. 36 In. Wheels. 1,900 Lbs. \$1,500.**

Satisfied of this, we spent last year enlarging our plant, and demonstrating the efficiency we had attained.

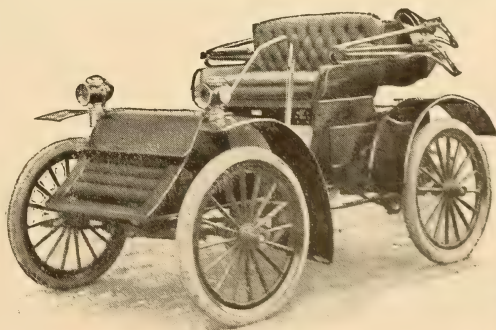
To-day the oldest auto-makers in the United States offer you the only perfected automobile in the world, backed by a record that is the envy of all competitors, at prices not "fancy," but based on the cost of economical construction.

These pictures show our vehicles in correct relative proportions.

We refer you to our record and our customers.

Our Catalogue tells the rest.

**Haynes-  
Apperson Co.  
Kokomo, Ind.**



**RUNABOUT. 6 H.P. 32 In. Wheels. 1,250 Lbs. \$1,200.**

All these machines were stock products, with no special features, and in no case required more care than any purchaser would give in ordinary pleasure riding or touring.

## The Reason.

We have built and sold automobiles since 1893—nine years.

Five years ago we perfected our type, which has not since required change.

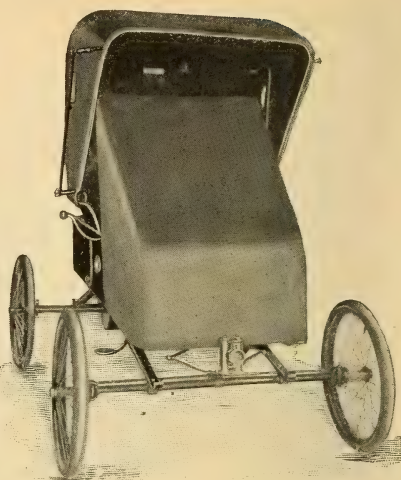
Five years have been spent simplifying and strengthening our cars till they are practically "fool-proof."



# The Everyday Automobile

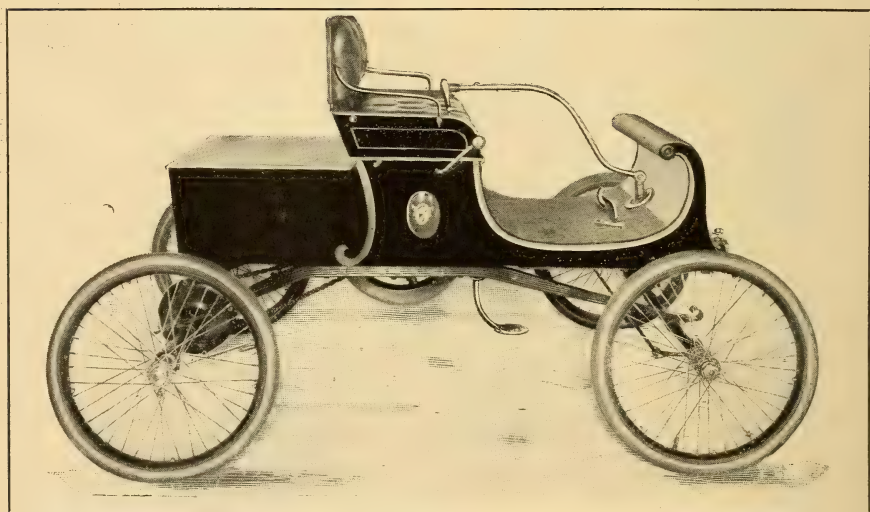
Is the one that  
can be used in  
any weather,  
by anybody.

## The ————— Spaulding Gasoline Runabout. .



Is just what you want for pleasure or business. Starts from the seat. Takes you anywhere you want to go. Runs 200 miles on one charge of gasoline. Is simple, durable, economical—and

**COSTS BUT \$650.**



# Spaulding Automobile and Motor Company,

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Most Liberal Terms to Agents.

# The Difference

Between running a carriage and a locomotive is just the difference between the

# WHITE

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You simply fill your tank — start your fire and go ahead.

No water glass to watch and you needn't even look at your steam gage unless you choose.

Our new Catalog tells you more of the comfort to be had only in the WHITE.

**WHITE** SEWING MACHINE CO.  
CLEVELAND, OHIO.

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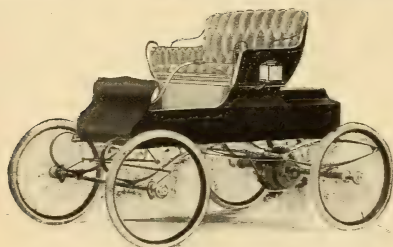
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# NATIONAL ELECTRIC VEHICLES.

Always  
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Electrobile Model 50, \$850.

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**New Nobby Nationals.**

New improvements that careful buyers will wisely investigate before buying.

Catalog for the asking.

## National Vehicle Co.

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\$15  
15  
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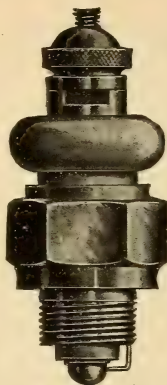
## DOUBLE YOUR SALARY

Don't spend spare time thinking what you might be if your salary were doubled! *Doing*, not thinking, will make your wish a reality. Our free booklet, "Are Your Hands Tied?" tells you what to do and how to do it. Thousands have already doubled or largely increased their salaries by following our plan. Under our guidance you can do the same. Act today! I. C. S. Text-books make it easy for those already at work to

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## Desberon Sparking Plugs.

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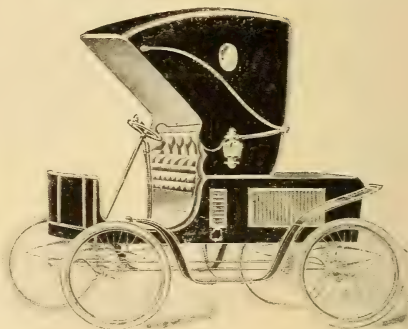
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Manufacturers of the

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We will be at the Chicago Show,  
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Body easily removed, Top Detachable.  
Remington Patent Foot Levers control  
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Two Brakes. ✿ Perfect Safety.

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**Remington Two Cylinder Motors**  
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# If You Have Any Questions

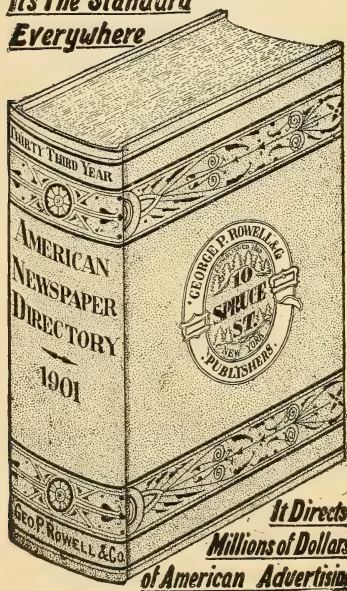
About any make of vehicle or accessories we shall be pleased to answer them to the best of our ability.

What we don't know we can find out for you—perhaps better than you can for yourself.

If you are having troubles of any kind we can probably help you. Don't be bashful—send in your queries.

**Information Bureau** *o o* **Automobile Magazine**  
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Kodaks load with film cartridges that  
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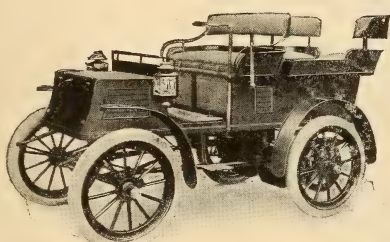
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the dealers or  
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# Columbia

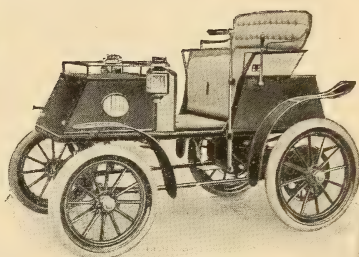
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Safety.



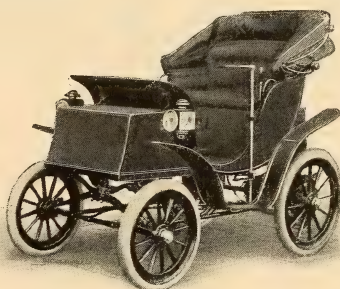
Mk. XIX Tonneau.

Reliability.



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Equipped with Exide Batteries  
Columbia Automobiles excel  
all others in radius of reliable  
action. ❀❀❀❀❀❀❀❀❀❀

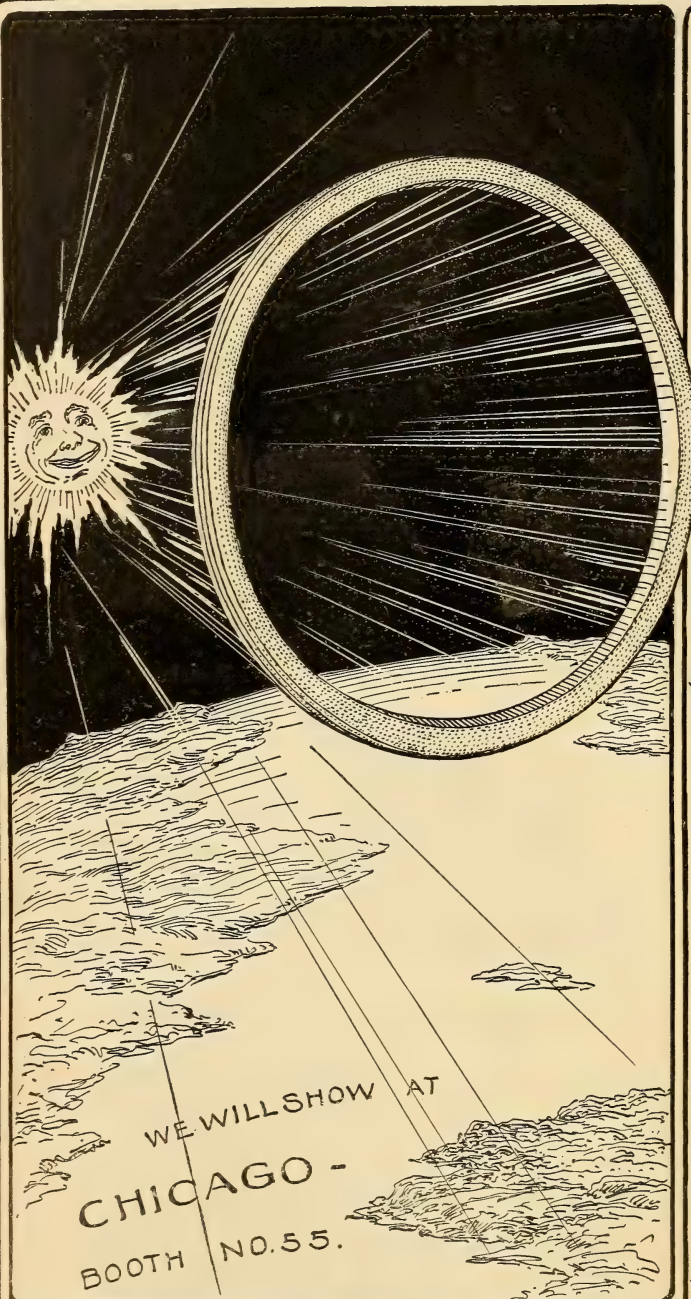
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THE BEST  
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ADDRESS ALL CORRESPONDENCE  
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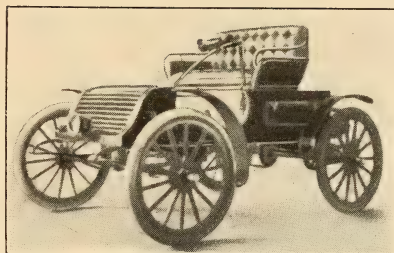
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*17,000  
Miles of Actual  
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PRICE, \$750.00.

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6 H.P., Actual,  
Starts from  
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Simplest  
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Manufactured at BELVIDERE, ILLS., by the

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CAPACITY, 10 MACHINES PER DAY.

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WANTED.*

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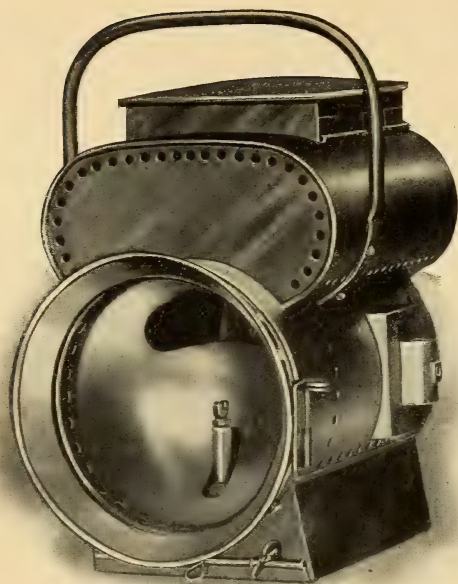
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Cannot Rim Cut.  
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A DETACHABLE  
TIRE THAT FITS ANY  
CRESCENT RIM

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FRENCH TYPE AUTO HEADLIGHT.

2 sizes, listing at \$35 and \$50 each.

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for

**Automobiles, Cycles & Launches Burn Acetylene Gas Successfully**

Because of our patented system of gas generation.

Projects an intense white light 1000 feet ahead of vehicles.

Are made in a variety of styles and finishes, ranging in price from \$3.50 to \$50 each.

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Ask for Catalogue.

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## WIRE WHEELS. STEEL RIMS.

Any Section.  
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For Vehicles  
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STEERING KNUCKLES  
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**We are the oldest and  
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We want your business. ❀ ❀ ❀ ❀  
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For this reason we can save you ❀  
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Send us your Specifications.

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# CHICAGO SHOW

MARCH 1 to 8.

**Electrics**—Columbia, Riker, Bachele, National, Baker, Waverley, Buffalo, Fanning.

**Steam**—Locomobile, Mobile, Toledo, Milwaukee, Overman, White, Foster, Steamobile, Darling.

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**Tires**—Long Distance, Diamond, Hartford, G & J, Goodyear, Goodrich.

**Miscellany** — American Ball Bearings, Porter Batteries, Midgley Tubular Wheels, Baldwin Chains, Brown-Lipe Gears, Dixon's Lubricants, Dow Ignition Outfits, Aurora Motors, Veeder Odometers, 20th Century and Solar Lamps, Merkel Motor Bicycles, and scores of other accessories.

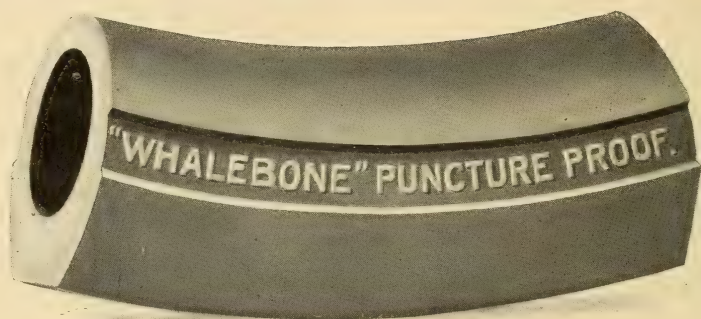
The one and only opportunity to examine all of these standard productions for 1902 at one time.

Dealers and prospective buyers are requested to send for details of

## Reduced Railroad Rates

**From all points in the territory of  
the Central Passenger Association.**

SAMUEL A. MILES, Mgr., Monon Bldg., Chicago.



TIRE TROUBLES VANISH  
WHEN YOU USE=====

## "WHALEBONE" TIRES.

WHY? BECAUSE

- |      |   |      |   |
|------|---|------|---|
| 1st. | They are puncture proof.  | 6th. | They are more graceful in design and outline than any other tire, and give an unequalled finish to the wheel. |
| 2nd. | They last twice as long as any other tire made.   | 7th. | They maintain, under all loads, the same tread surface.   |
| 3rd. | They are capable of carrying double the air pressure of any other tire without increasing their diameter. | 8th. | The valves remain tight as the column of air in the tire is less disturbed.                                   |
| 4th. | They throw less mud and very much less dust.  | 9th. | The resiliency is better distributed, and they ride easier.   |
| 5th. | Being re-inforced on the upper side they are never cut by the rim.  |      |   |

## American Rubber Works Co.,

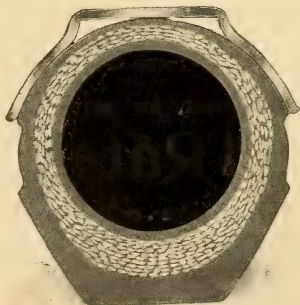
Successors to New Brunswick Rubber Co.

Manufacturers of High-Grade AUTO and CARRIAGE TIRES of all descriptions.

NEW YORK REPRESENTATIVE,  
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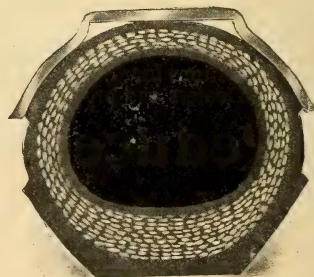
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Send for  
Circular  
giving  
details of our  
Patent  
Stay Thread  
Fabric, also  
Testimonials,  
etc.



DEFLATED

## When the Scorcher Scorcheth

**A** CHEERFUL look and an interest in their immediate surroundings while out in public is entirely foreign to some of those who drive automobiles, who seemingly are completely wrapped up in themselves, and the desperate deeds they contemplate doing. The contagion has spread to the West, as witness this verse by one of the bright young men of the Chicago *Times-Herald*:

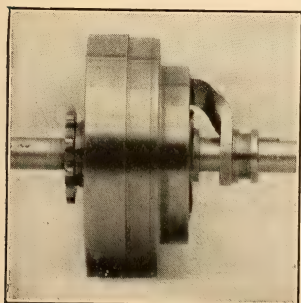
One more enthusiast  
Covered with dust ;  
See him go zipping past—  
“Get there or bust !”  
Look at the face on him ;  
One might suppose  
Old Nick was chasin' him  
On as he goes.

Look at the goggles he  
Wears as he zips ;  
See how he joggles ; he  
Sways and he flips  
Round the sharp corners and  
Scorns all his scorers and  
Jiggles and jumps,  
Knocking dogs silly  
And keeping on till he  
Runs down or else bumps.

Has he a father,  
Has he a mother?  
Has he a sister,  
Has he a brother?  
If so, why don't they do  
Something to bring him to  
See what a donkey he  
Is, what a monkey he  
Looks like up there  
On that old rattle-trap,  
Splitting the air.

---

**WANTED AND NOW HERE.**



### **The Champion Speed Changing Clutch**

**Every Automobilist and Manufacturer  
should know of it.**

**SAFE, SELF-CONTAINED, DIRECT.**

**HIGH-GRADE, REASONABLE PRICE, ORIGINAL.**

Does all and more than other speed changing clutch.

Two speeds forward and one reverse.

Send for our Pamphlet which tells you all about it. Prices, discounts, etc. Agents wanted everywhere.

**THE CHAMPION MANUFACTURING CO.,**

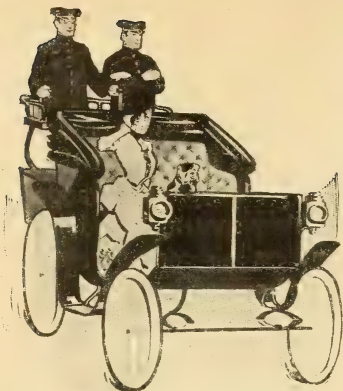
479 Hancock St. and 76-86 Sedgwick St.,

**Brooklyn Borough, New York.**


P. J. Dasey & Co.—Spaces 53 and 54 in Chicago Show.




Established 1818.



## Brooks Brothers,

BROADWAY,  NEW YORK

Everything for Automobile use and wear, from the smallest sundry accessory to the owner or chauffeur's complete Clothing or Livery outfit.

Our new illustrated and descriptive catalogue with prices, is now in press. 

### STORAGE, REPAIR AND CHARGING STATIONS.

As some stations have no facilities for repairing or charging electric vehicles, they will be designated as follows:

**S. R. C.**—Store, repair and charge all makes.

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**S.**—Store all makes.

When only special kinds are handled it will be so stated.

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*Brooklyn*—Brooklyn Automobile Co., 1239 Fulton St. Telephone, 705 Bedford Branch. S. R. C.

*Brooklyn*—Champion Automobile Co., 68 Montague St. Telephone, 1868 Main. S. R.

*Brooklyn*—International Motor Car Co., 342-344 Flatbush Ave. Telephone, 1681 Main. S. R. C.

*Brooklyn*—F. Lauterbach, Flatbush and Ocean Aves. Telephone, 4261 Flatbush. S. R. C.

*Brooklyn*—Patterson & Shaw, 58 Schermerhorn St. Telephone, 3710 Main. S. R. C.

*Brooklyn*—Alex Schwalbach, 473 Flatbush Ave. S. R.

*Far Rockaway*—D. S. Starks. Telephone, 11-A. S. R.

*Flushing*—Nicks Auto Depot, 81 Grove St. Telephone, 233-a Flushing. S. R. C.

*Garden City*—August Porrier, Franklin St. Telephone, 42-A. Charge.

*Rockville Center*—Chas. E. Edwards. S. R.

#### MASSACHUSETTS

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*Andover*—H. F. Chase, Musgrove Blk. Telephone, 118-3.

*Boston*—Automobile Headquarters, 33 Stanhope St. Telephone, 842-2 Tremont. S. R. C. Also rents steam and gasoline carriages.

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GENERAL AUTOMOBILE AGENTS.

A FULL LINE OF SUNDRIES AND PARTS, INCLUDING:



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SALES ROOM ENTRANCE:

29 and 31 WEST 42nd STREET.

STORAGE AND REPAIR ENTRANCE:

38 and 40 WEST 43d STREET, NEW YORK CITY.



## Of Course, You've "Hearn Tell Of"

the old lady who, as the train stopped, asked the conductor whether she could change trains there. He said she could if she wanted to, but she better not.

You can go buy a high-priced machine if you want to but you had better not. Not until you write Dyke for his list of **2nd Hand Machines, all makes, styles and prices.** Dyke's 48 page Catalogue shows a hundred and two things you might be interested in.

Dyke manufactures Gasoline Engines 1 to 10 h.p., Wheel Steering Device, Radiators, Running Gears, etc., etc. Watch the other fellows copy Dyke's *Flexible Reachless Running Gear!* **Automobile Supplies** of every description.

**A. L. DYKE, Linmer Building, ST. LOUIS, MO.**  
(Originator first Automobile Supply Co., in America.)



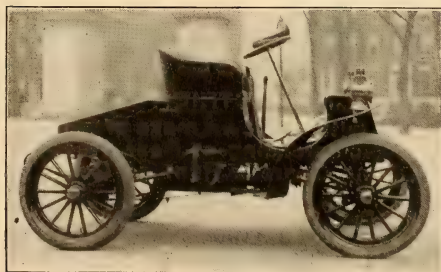
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*Cambridge*—8-10 Palmer St. Telephone, 72-2 Camb. S. R. C.  
*Canton*—J. E. Kelley. S. R. C.  
*Clinton*—Clinton Mch. Works, 460 High St. Telephone, 153-5. S. R.  
*Concord*—John McKuyer. Telephone, 14-5. S. R. C.  
*Dorchester*—Barden Cycle Co., 232 Adams St. S. R.  
*Hudson*—F. D. Knight & Son, 49 Church St. R.  
*Marlboro*—Marlboro Auto & Car Co. Telephone, 9154-13. S. R.  
*Medfield*—James Orel.  
*Medford*—F. H. Greaney, 60 Park St.; 439 High St., W. Medford. Telephone, 27-3 Medford. S. R. C.  
*No. Attleboro*—John P. Ballou, 175 Washington St. S. R. C.  
*Plymouth*—G. E. Rounds. Telephone, 205-3. S. R. C.  
*Roxbury*—Wilson Ourish, 470 Blue Hill Ave. Grove Hill. Telephone, Rox. 55. S. R. C.
- Stoughton*—James Lehan, Lehan's Bldg. Telephone, 38-4 and 38-7. S. R. C.  
*Westfield*—Loomis Automobile Co. S. R. C.

### NEW YORK

- New York City*—Automobile Storage and Repair Co., 57 West 66th St. Telephone, 1271 Columbus. S. R. C.  
*New York City*—Homan & Schulz, 2642 Broadway, near 100th St. Telephone, 1465 Riverside. S. R. C.  
*New York City*—Harlem Automobile Co., 159-163 West 127th St. Telephone, 1459 Harlem. S. R. C.  
*New York City*—Manhattan Automobile Co., 62 West 43d St. Telephone, 4138 38th St. S. R. C.  
*New York City*—Spalding-Bidwell Co., 38-40 West 43d St. Telephone, 691 38th St. S. R. C.  
*New York City*—Chas. Strathmann, 175 E. 120th St. Telephone 1444 Harlem. S. R.  
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THIS IS OUR NEW MODEL F.

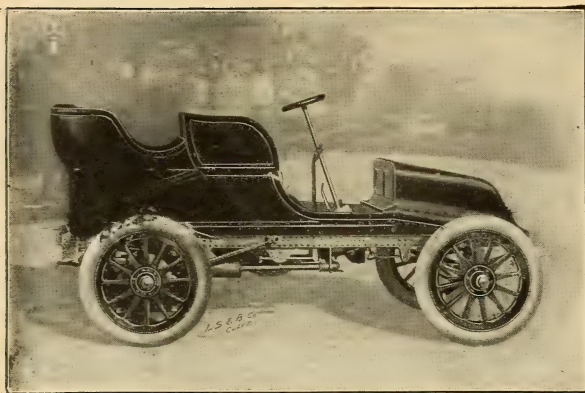
Are built for those to whom tried out efficiency is the first requisite. Past achievements speak for themselves.

Brought strictly up-to-date and are the acme of simplicity and reliability. We make no attempt to compete on price. If you are interested in this kind of a carriage, write us, or better

Ask the man who owns one.

**Ohio Automobile Co.,**  
WARREN, OHIO.

Eastern Department, Adams, McMurtry Company, 114 Fifth Avenue, New York.



# The Winton.

OUR 1902 construction presents many features of superior excellence. New Catalog will be found interesting.

**The Winton  
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Branches in New York, Chicago, Boston and Philadelphia.

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*Niagara Falls*—W. H. Davey, 231 First St. Telephone, Bell 336-X. S. R.

*Oneida*—Oneida Rubber Tire Works, Cedar and Phelps Sts. Telephone, Bell. S. R. C.

*Poughkeepsie*—John Benschoten, rear of Morgan House. Telephone, 39-a.

*Rhinebeck*—J. Vonderlinden. S. R.

*Rochester*—Jos J. Mandery, 150-170 South Ave. S. R. C.

*Schenectady*—A. R. Burtiss & Son, 148-152 Jay St. Telephone, 202-D. S. R. C.

*Utica*—Miller-Mundy Motor Carriage Co., Oneida Square. S. R.

## NEW JERSEY

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*Bridgetown*—Jacob R. Elwell. R.

*East Orange*—John M. Schmidt, 22 Railroad Pl. Telephone, 1504 E. O. S. R. C.

*Egg Harbor*—Jacob Wimberg. Telephone. Bell. S. R. C.

*Hackensack*—Davison Eng. Co., Main and Bridge Sts. Telephone, 175-I. S. R. C.

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*Morristown*—Willis H. Dretton, 24 Washington St. Telephone, 173. S. R. C.

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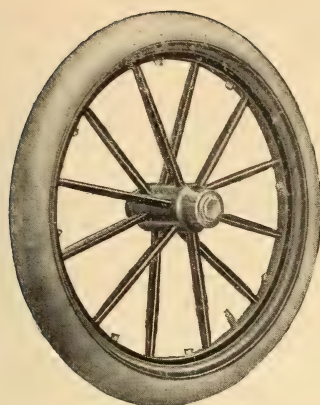
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SUITABLE FOR STEAM, GAS OR ELECTRICITY.

Our running gears are all equipped with our own make of self-contained spur compensating gears. No spreading of Rear Truss. Can supply the trade with Compensating Gears or Running Gears complete. Write for prices.

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TENTH AND EXETER STREETS, READING, PA.





## MIDGLEY Tubular Steel Wheels

Unquestioned strength, combining beauty, endurance and elegance of finish. DO NOT FAIL to see this wheel at the coming CHICAGO SHOW, also examine VEHICLES equipped with it.

The only wheel specially constructed for the combined DRIVING and carrying of the load.

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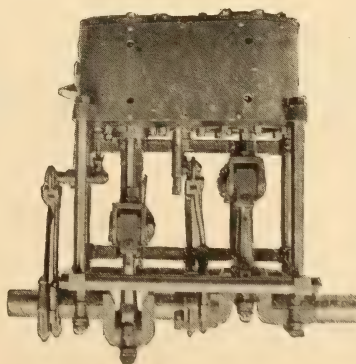
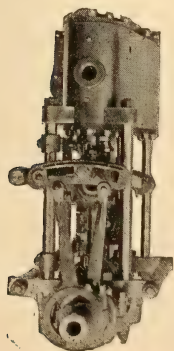
- Newark*—J. W. Geissler, 46 William St. S. R. C.  
*Newark*—L. Lawrence, 241 Halsey St. S. R. C.  
*Newark*—New Jersey Automobile Co., 8 Central Ave. Telephone, 734 Newark. S. R. C.  
*Newark*—Lewis J. Worth, 26-28 William St. S. R. C.  
*New Egypt*—Chafey & Brown. S. R. C.  
*Passaic*—Geo. De W. Brown, 271 Main Ave. Telephone, 206 B. Passaic. S. R.  
*Seabright*—H. L. Zobel, Jr. Telephone, 26-B. S. R. C.  
*South Orange*—W. L. Mead, 275 Ridge-wood Road. G.—Repair.  
*Vineland*—C. W. Pearson, N. 6th St. Tele-phone, 35 Interstate. S. R.
- Bethlehem*—Lawrence L. Beckel, Novelty Machine & Bicycle Works, 211 S. Main St. S. R.  
*Easton*—George G. Snyder, 200 S. 3d St. S. R. C.  
*Philadelphia*—Banker Brothers, Broad and Vine Sts. Telephone, 1-39-11. S. R.  
*Philadelphia*—Quaker City Automobile Co., 304 North Broad St. Telephone, 1-33-83. S. R. C.  
*Philadelphia*—Jas. M. Smith, 3503 Long-shore St. Tacony. S. R. C.  
*Pittsburgh*—Banker Brothers, Baum and Beatty Sts. S. R.  
*Reading*—Duryea Power Co., River St. Telephone, 1422. S. R.  
*Wayne*—R. W. Loundis, 116 E. Lancaster Ave. S. R.

### PENNSYLVANIA

- Chester*—John Taylor, 504 Market St. Telephone, 652. S. R. C.

### RHODE ISLAND

- Newport*—Newport Engineering Works, 359-367 Thames St. S. R. C.



## Engine Satisfaction

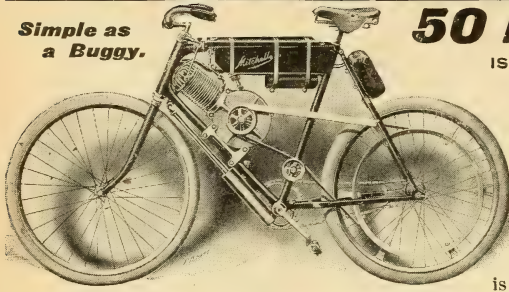
means that you need

### The Reeves Compound Automobile Engine

in your carriages. They are built for business and will do your work every day in the year.

**Reeves Machine Co.**  
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Simple as  
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**50 Miles for 10 cents.**

IS THE MAXIMUM COST OF OPERATING THE

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# Motor Bicycle

With it you can make an average of 35 miles an hour over most any sort of road without effort and with **PERFECT SAFETY**. The Mitchell is a Bicycle Automobile built for one; is always under perfect control; as simple in operating as an ordinary wheel. It is built for wear and tear and not for a toy, and is fully guaranteed. Full information sent free. Manufactured only by

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This department is inaugurated for the convenience and assistance of the readers of THE AUTOMOBILE MAGAZINE. If you wish to buy or sell a carriage write us about it.

### STEAM

1901 Reading Carriage, excellent condition, fenders, oiler pump, etc. Cost \$850—3 months ago—sell for \$550. Owner needs a different style carriage for his use. Address S-1.

### STEAM

Locomobile—.003 with Victoria top. All improvements. Fine condition. Cost \$950—sell for \$600 f.o.b. Address S-2.

### STEAM

Locomobile—buggy with top, side curtains, hamper, front hood, side lamps and gauge lamp. Many improvements added. \$700. Address S-3.

### STEAM

Locomobile—1901—.02 model, extra tire, tank touring basket, chain, etc. Cost \$1,000. Price \$700. Address S-4.

### STEAM

Locomobile No. 03. Panel seat and Victoria top. Perfect order—run only 800 miles. Cost \$900—sell for \$625. Address S-5.

### STEAM

Toledo—has new engine and boiler—run about 500 miles and is as good as new. New top just applied. Cost \$950—sell for \$750. Address S-6.

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### GASOLINE

Party wants two-seated gasoline vehicle. State make, power, condition and price. G-4.

### GASOLINE

Model C Packard—12 H. P. engine, detachable rear seat and top, 1 extra tire, brass lamps and full tool equipment. Run about 500 miles—guaranteed in fine condition. Cost \$1550—sell for \$1000. Address G-5.

### MOTORCYCLE

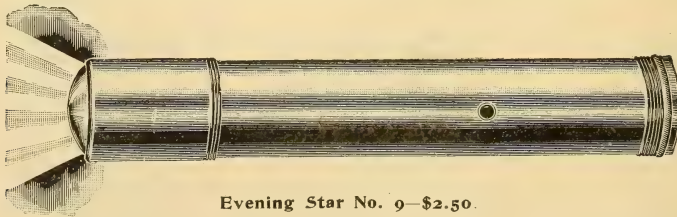
Werner, 1 1/4 H. P.; good condition. Run about 1,000 miles. Price \$85. Address M-2.

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Thomas Auto-Bi, 1 1/2 H. P.; excellent condition. Price \$135. Address M-3.

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Victoria—run but 150 miles. Perfect condition. Cost \$2300—will sell for \$1400. Address E-1.



Evening Star No. 9—\$2.50.

## PORTABLE ELECTRIC TORCHES.

Automobile Gauge Glass Lights, Flexible Attachments for examining gasoline tanks and motors. Our representative will be at the Chicago Show. Write for prices and catalogue.

Electric Contract Company, - - 53 Maiden Lane, New York.

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For readers of AUTOMOBILE  
MAGAZINE. For the best 1500  
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## A DAY'S RUN

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Three prizes will be given. Tell  
it in your own way, not forgetting  
the incidents and accidents. Send  
photographs if you have them. ❀  
We also want

## Automobile ❀ Photographs

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or rather photographs in which  
Automobiles figure in various ways  
that are interesting and amusing. ❀  
Three prizes given for these also.

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**174 Broadway, Entrance No. 1 Maiden Lane,**  
**NEW YORK.**



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"I mixed part of the sample of Dixon's No. 635 graphite you sent me with oil, and used it in cylinder, also all bearings and slides on my Mobile. I took a run of 9 miles and found my slides in such good condition that I ran another 9, making 18 miles at a 12 mile an hour gait, and at the end of the 18 miles there was still graphite on the slides and everything working fine. I also find I use only one-half the oil in cylinders and there is no squeak. Before I had the graphite I never ran over 10 miles without oiling slides. I would as soon think of running my Mobile without water as without *graphite*. You sent such a large sample that it will last me for some time, but shall order as soon as this is gone. All my friends having carriages are using it, and I think it is the best thing on earth."

Those who are not posted on Dixon's graphite for steam, gasoline and electric automobiles should write us at once. Samples free.

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Your customer  
wants them!  
Why not give  
them the best?  
They are made  
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**Phineas Jones**  
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## "Rigs That Run"

They run for others,  
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One of your vehicles owned by Mr. T. C. Meadows of this City (the Treasurer of our Automobile Club) has given excellent service, perhaps better than any in the club.

Very truly yours,

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This is the way they run everywhere.  
If you want a "Rig that Runs" get a  
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We will send you Catalogs free. All  
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Carry 2 or 4 People.



TWO DOUBLE ACTING BRAKES ON REAR HUBS.

Heavy Roller Chain. Heavy Running Gear.

NEW STYLE ROLLER BEARINGS.

Large Fuel and Water Capacity.

New Burner and Pilot Lights.

Start in 3 minutes. Superheated Steam.

Automatic Lubricators. ENCLOSED ENGINE.

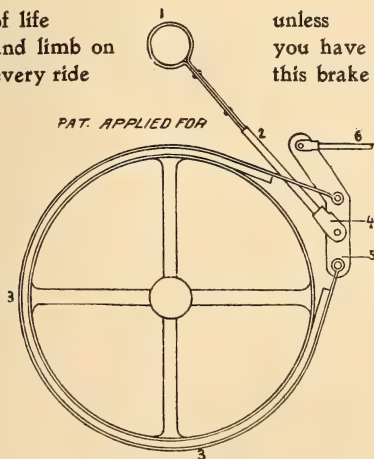
**PRESCOTT AUTO MFG. CO.,**

83 Chambers St., New York, U.S.A.

## You are in DANGER

of life  
and limb on  
every ride

unless  
you have  
this brake !



THIS BRAKE holds in either direction—does not bind and WILL HOLD YOU ANYWHERE. Better send a postal and find out more about it.

**N. J. Automobile Co.,**

8 Central Ave., Newark, N.J.

Agents Wanted.

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## We have a neat plan for a House for Your Auto

*which with specifications  
sells for \$1.00. . . .*

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can help you. . . .*

**Automobile Magazine,**  
174 Broadway,  
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There is scarcely any condition of ill-health that is not benefitted by the occasional use of R·I·P·A·N·S Tablets. For sale by Druggists. The Five-Cent packet is enough for an ordinary occasion. The family bottle, 60 cents, contains a supply for a year.

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## Steam Carriages

FOR

## Immediate Delivery.

## Chicago Automobile Show

AT THE

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8th,

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91 Fifth Avenue, New  
York City,

AND

342 Flatbush Avenue,  
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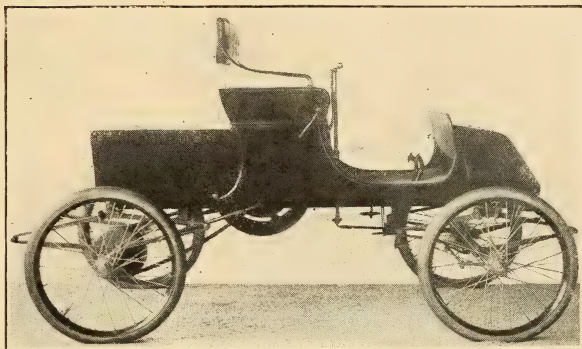
**International Motor Car Co.,**  
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In answering advertisements please mention THE AUTOMOBILE MAGAZINE.



THOMAS B. JEFFERY & CO. manufacture the

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The most practical light touring car made. Fuel supply for 150 miles; safety starting device. Two speeds forward, one reverse. Operated easily by any lady. Safe for any road in any weather. Booklet C-X gives full particulars. Sent on request.

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*When you see the Baker Electric, you see the best made, most efficient and finest finished Electric Automobile in the country. We manufacture Stanhopes with Victoria or open top for ladies' driving or physicians' use, and two styles of Runabouts that have no equal. Send for Catalog.*

**The BAKER MOTOR  
VEHICLE COMPANY  
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**SPEAKS FOR ITSELF.**

"As regards the machine, it works to perfection and I am highly satisfied and cannot say too much in recommendation of the same. Several of my friends have seen it and are inclined to buy one, and I think shortly they will place some orders."

See our New Models at the Chicago Show. Spaces, 15, 16, 17, 18.

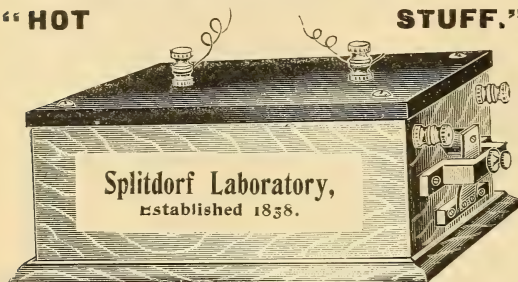
**FOURNIER - SEARCHMONT  
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## THE SPLITDORF JUMP SPARK COILS

**"HOT**

**STUFF."**



are now the recognized standard of the gas and oil motor world, and we can refer to the best authorities, who have given unvolited testimonials regarding their superior quality. The SPLITDORF COIL is without a peer, and has the name Splitdorf stamped on each coil. Stop experimenting and save time and money by getting the best, which is the Splitdorf. These coils are constructed similar to the 1-inch intensity coils which we have made ever since 1858 for laboratory work, and of which thousands are still in use.

**Beware of Imitations.**

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MILWAUKEE, WIS.

Recognizing the fact that many people cannot pay the high price asked for some Automobiles, we are inviting propositions to make Automobiles of any design to order on contract plan. Will construct machines from parts furnished if required. Send for photos of machines already built. **Machines built from \$350 up.** Our new Spark Coil of new and special design, listing at special low price, will be ready for the market shortly.

**The Automobile Construction Company,**

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Two passenger "Toledo" steam carriage. Six H. P. engine. Substantial frame and tires. Good as new having run only 500 miles. New top. Cost \$950, will sell for \$750.

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I will sell a good runabout with 4 H. P. Crest motor, Loomis Carburettor, all in good condition for \$400. Or will exchange for a single-seated steam machine on reasonable terms.

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Pioneer in Automobiles—and the highest standard of Automobile excellence. Noiseless, odorless, speedy, safe and inexpensive. Handsome in design, yet with such strength in construction that it carries 1,500 pounds evenly, easily and smoothly. Nothing complicated. Power is transmitted to the rear axle by block chain of four thousand pounds tensile working strength, running direct from motor shaft. Gearing is used only in hill climbing, and backing up, but no gears are used when running at the regular speed.

**The Oldsmobile** will run upstairs, downstairs, and stop anywhere along the way, at the will of the operator. It will make twenty-five miles an hour over the roughest roads without "turning a hair."

It is a perfectly practical, durable machine. Price \$650.00 F. O. B. Detroit.

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Western Automobile Company, Cleveland, O.  
William E. Metzger, 254 Jefferson Av. Detroit, Mich.

Ralph Temple Co., 293 Wabash Av., Chicago, Ill.  
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To avoid disappointment place your orders early as the demand is large. Write for illustrated book.

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who does what nobody else attempts to do, but to that man  
who does BEST what multitudes do well." *Macauley.*

This holds the secret of our continuous and healthy growth; it accounts for our prestige as makers of good tires.

**HARTFORD SINGLE TUBES TIRES**  
**AND THE DETACHABLE**  
**DUNLOP TIRES**

Are the Original Pneumatic Tires  
of their Respective Types.

THEY WERE BEST YEARS AGO,  
THEY ARE BETTER TO-DAY..

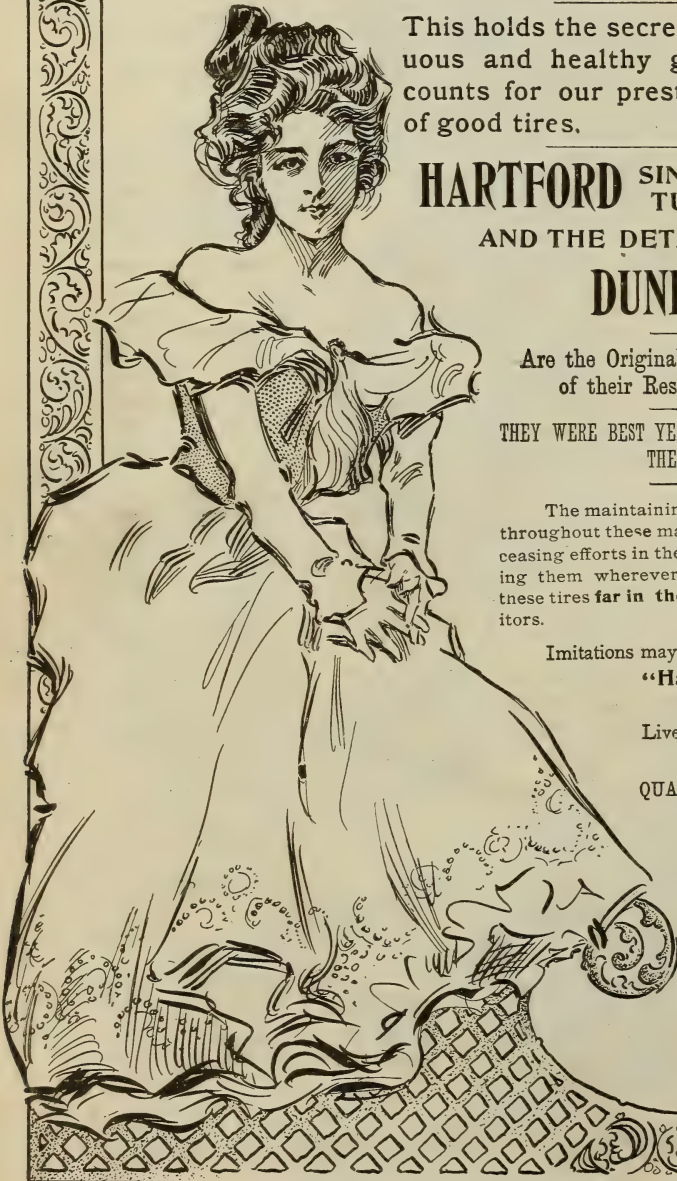
The maintaining of their high quality throughout these many years, and our unceasing efforts in the direction of improving them wherever possible, has placed these tires far in the lead of all competitors.

Imitations may come and go, but  
"Hartford's" and  
"Dunlop's"

Live on Forever in Popular Favor.

QUALITY TELLS  
IN THE LONG RUN.

Manufactured by  
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WORKS  
COMPANY,**  
HARTFORD, CONN.,  
U. S. A.



July, 1902

Price, 25c

# THE AUTOMOBILE MAGAZINE

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German Military Officers Motoring.

174 BROADWAY, NEW YORK, U. S. A.

Volume IV

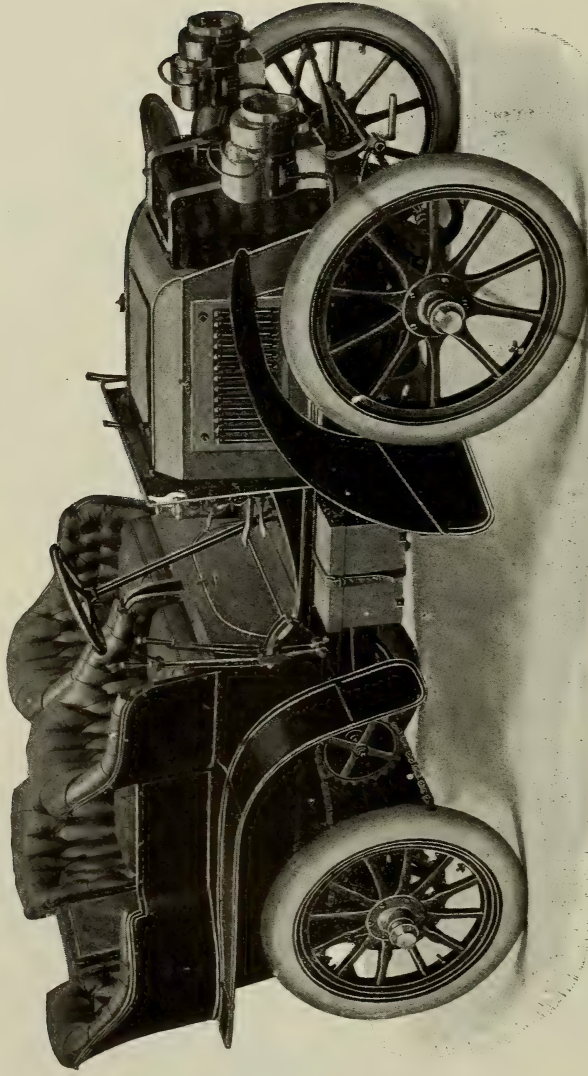
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*Seventh Avenue and 38th Street*  
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Panhard



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Agents and Importers of Highest Grade Automobiles and Parts

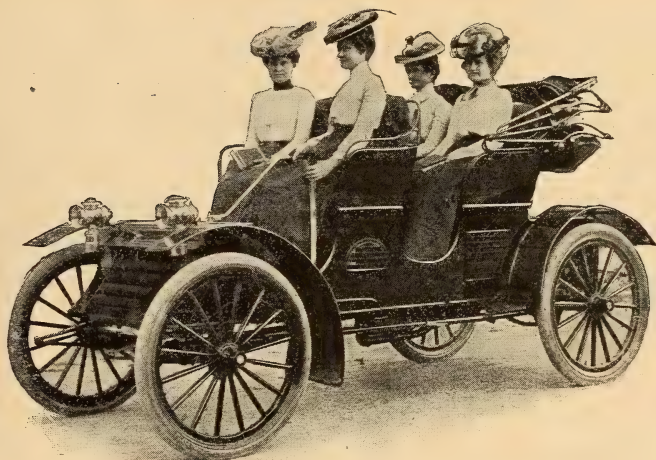


*The ONLY Automobile that has  
Won EVERY Endurance Con-  
test Held in America is the*

# HAYNES-APPERSON

The most practical Automobile in the World

WE WON THE 100-MILE NON-STOP TEST ON MAY 30 AS USUAL



Runabout, \$1200    Phaeton, \$1500    Surrey, \$1800

6 horse-power, 2 passengers

9 horse-power, 2 passengers

9 horse-power, 4 passengers

**W**E offer a proved efficiency and reliability, ease of access to working parts, and simplicity of operation not afforded by any other make in the world, at a moderate cost for the Finest Workmanship.

Look Up Our Records ♣ Ask Our Customers ♣ Get Our Catalogues Free

## HAYNES-APPERSON CO.

KOKOMO, IND., U. S. A.



THE CAREFUL and thorough test given every



**OTTO**



engine would not alone have placed it in the high position it holds had not correct design, best materials and skilled workmanship preceded the test.

The buyer's interests are safeguarded during every step of the engine's progress through the shops by the watchful care of men who have made gas enginery their life study. For twenty-six years our entire energy has been devoted to the perfecting of the OTTO, and our entire plant (covering a city block) has been used solely for its manufacture.

Verily the OTTO deserves the proud position it holds.

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## JOHN R. KEIM

*Steam Engine for Automobiles and Launches*

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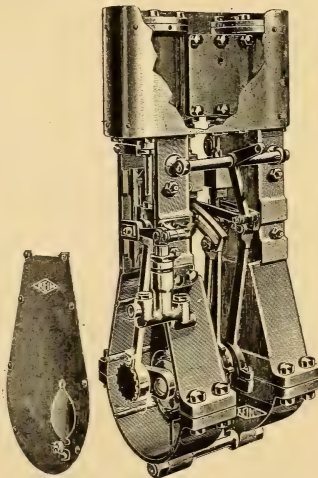
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Acknowledged to be the best **STEAM ENGINE** on the market and has been universally adopted by the leading Automobile manufacturers.

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If you desire to make your steam wagon a success you cannot afford to be without my engine.

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Write for full particulars and prices

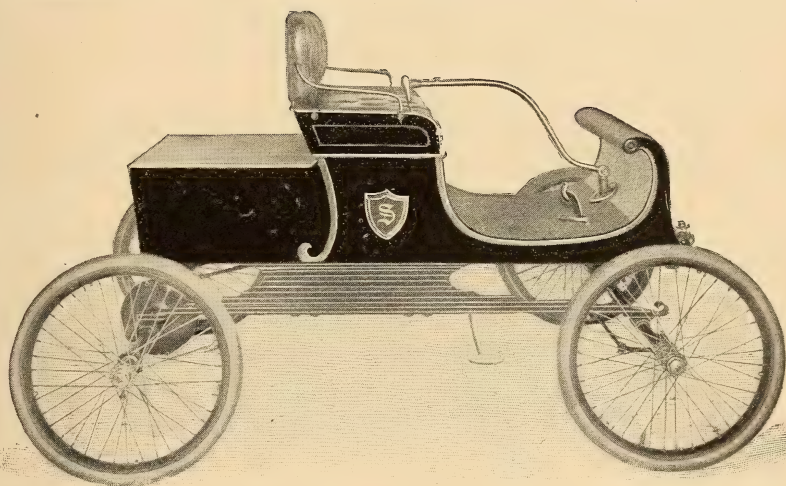
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## \$650

wants a vehicle that will carry him anywhere he wants to go and not require a skilled mechanic to keep it in order.



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meets his every requirement. Starts from the seat. Runs 200 miles on one charge of gasoline and is **SIMPLE — DURABLE — ECONOMICAL.**

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Agents for New Jersey and New York City.

**Reliable Agents Wanted.**



Tried,  
Tested  
and Proven.

ADDRESS ALL CORRESPONDENCE  
TO

17,000  
Miles of Actual  
Road Experience.

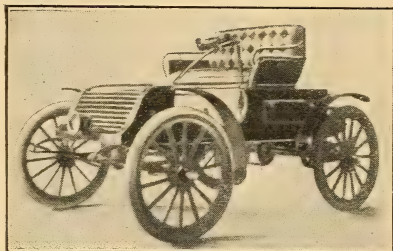
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No. 3 EAST VAN BUREN STREET,  
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Price, \$750.00.

Hydro-Carbon.

Capacity, 125  
Miles.



6 H. P., Actual,  
Starts from  
Seat. No Gear.

Simplest  
Machine Ever  
Constructed.

MANUFACTURED AT BELVIDERE, ILLS., BY THE

## NATIONAL SEWING MACHINE CO.

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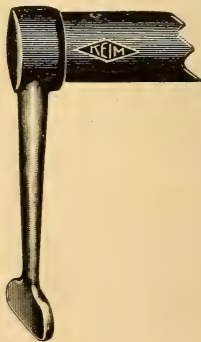
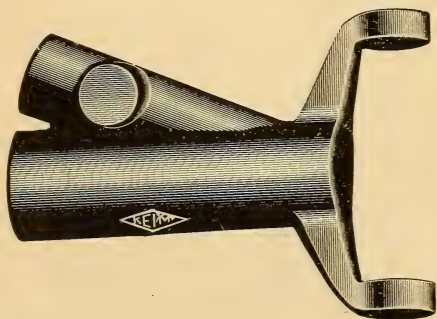
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WRITE FOR PARTICULARS

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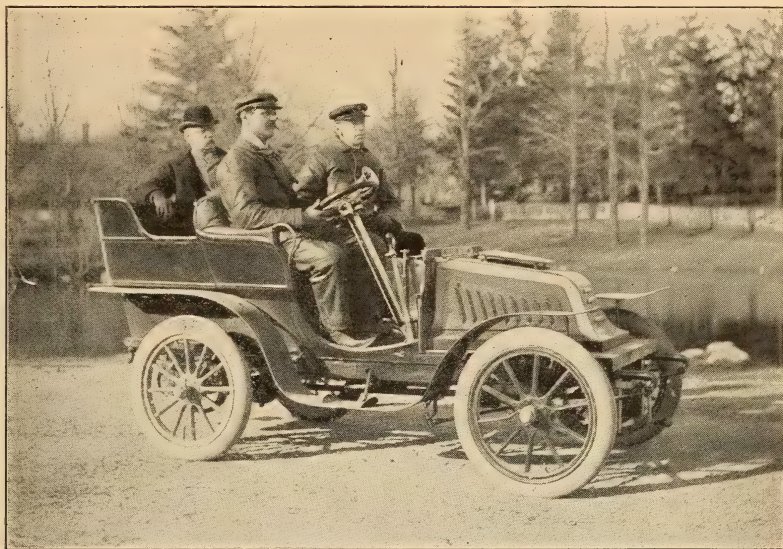
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Office and Warerooms: 652 Hudson St., New York City

Near 14th St. Station, 9th Ave. El.R.R.

F. A. LA ROCHE, Sales Manager



Governed Motor Three Speeds and Reverse. Weight 1300 and 1600 lbs. Direct Drive. Ample Power. Accessibility. Reliability. Single and Double Cylinder. 9 and 16 h.-p. Touring Cars Weekly importations provide instant delivery and assure the latest modern devices, improvements and styles. Our record the best proof of merit. 47 Firsts out of 52 Races in 1901. Winner of Annual French Hill Climbing Trials at Gaillon Hill, November, 1901.

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SPECIALISTS IN

# Automobile Photography

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## Tonkin Automobile Boilers and Kerosene Burners

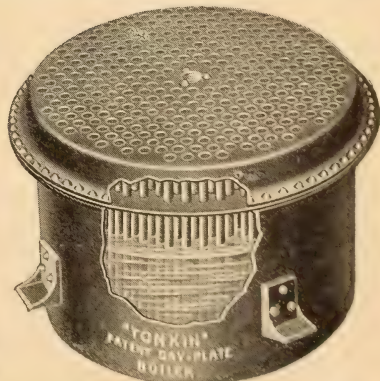
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**Tonkin Dry Plate Boilers  
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Heavy Truck Boilers  
Perfect Kerosene Burners**

.....Write for Catalogue and Prices.....

**TONKIN BOILER COMPANY**

OSWEGO, - - - - - NEW YORK.







The tires on an automobile either increase or retard its speed. Resilient tires give additional power and greater mileage.

## G & J TIRES

have been proven the speediest of all vehicle tires, and they wear longest. Descriptive catalog and full information on request.

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## Wood Wheels

Your customer wants them!

Why not give them the best?

They are made by

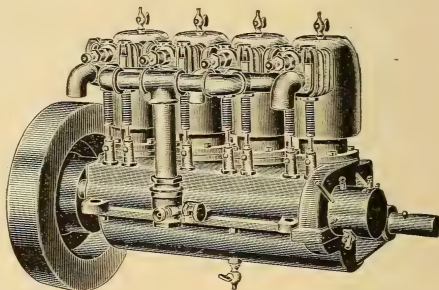
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### Upright Gasoline Motors

Both Air and Water cooled, for Automobiles, Launches and Stationary use, from 1 to 150 Horse Power.



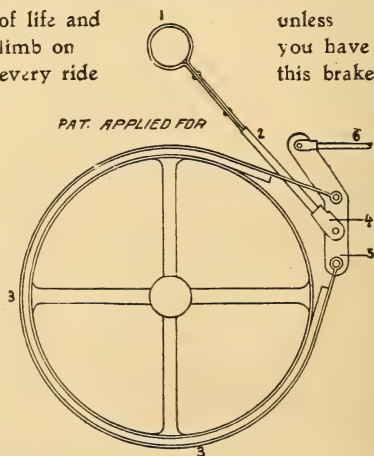
Also Automobiles of every style—Delivery Wagons, Omnibuses and Heavy Trucks.

THE RUTENBER MFG. COMPANY, Inc.  
 184 La Salle Street, Chicago  
 ROOM 1104 THE TEMPLE

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of life and  
limb on  
every ride

unless  
you have  
this brake!

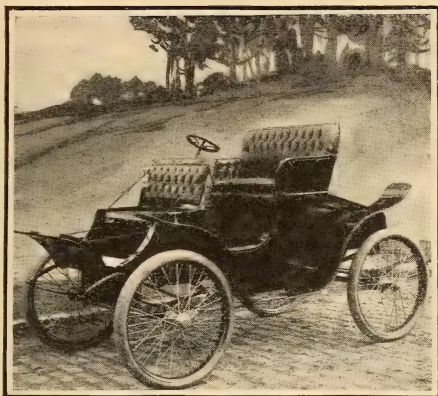


THIS BRAKE holds in either direction—does not bind and WILL HOLD YOU ANYWHERE. Better send a postal and find out more about it.

**N. J. Automobile Co.,**  
 8 Central Ave., Newark, N. J.  
 Agents Wanted.



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**Everybody Knows It Now**

**They watched B 34 in the  
Endurance Run**

**NEVER MISSED A CONTROL  
NO MECHANICS  
NO HELPERS  
NOTHING SPECIAL**

*Went in right cut of stock and went  
through on its merits, with a load of  
three passengers instead of two as in-  
tended.*

*One of the best carriages at any  
price and undoubtedly the best value  
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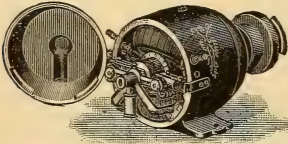
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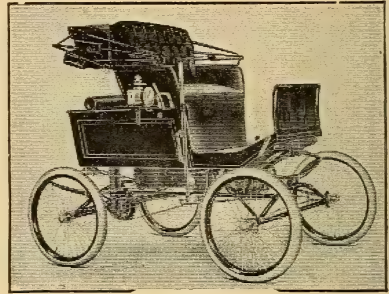
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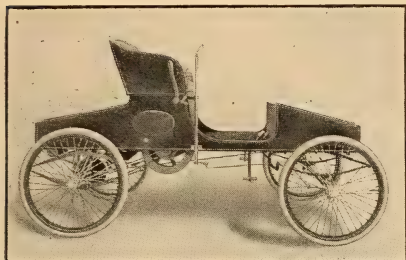
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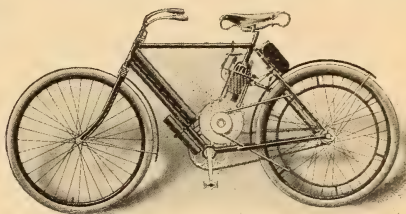
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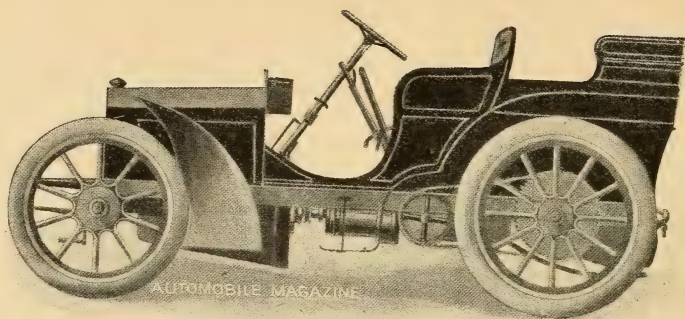
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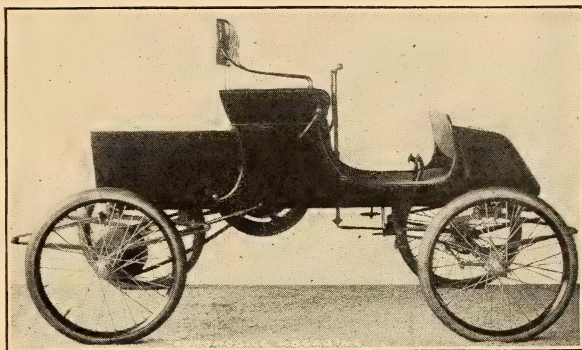
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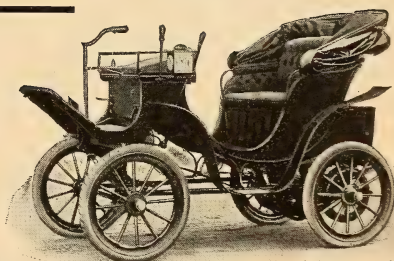
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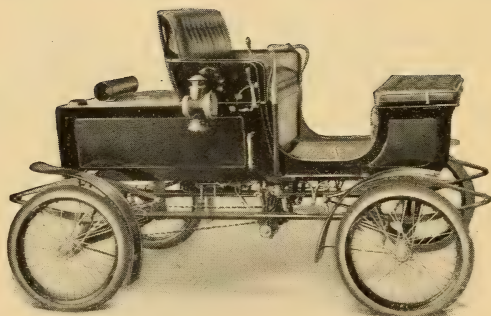
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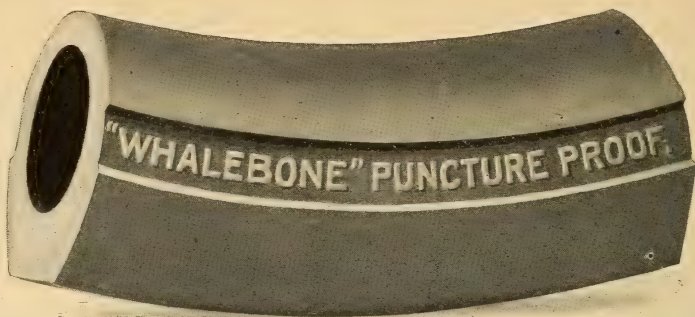
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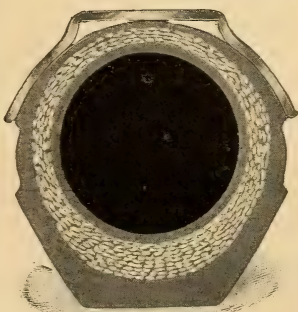
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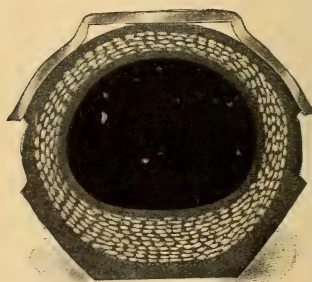
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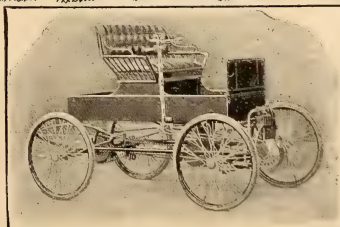
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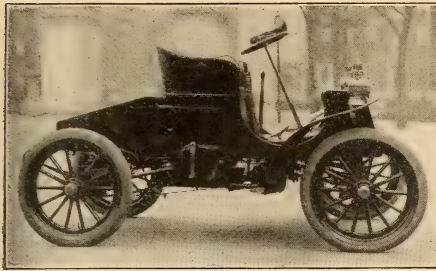
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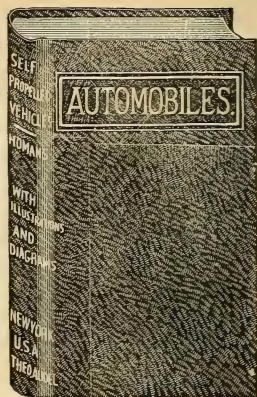
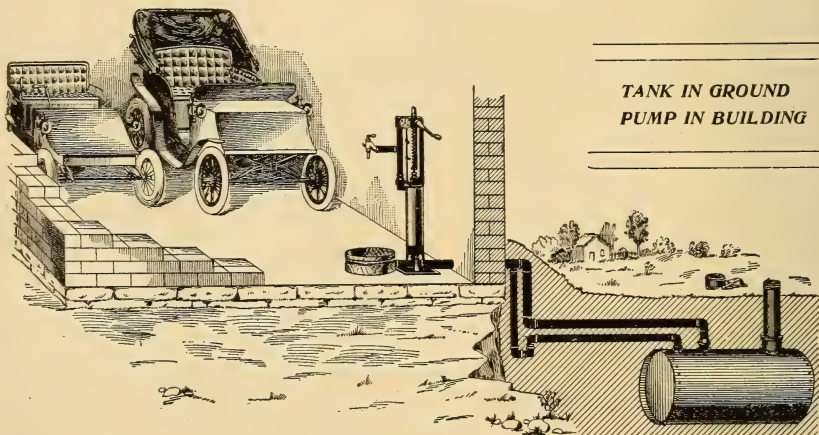
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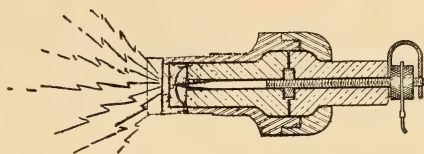
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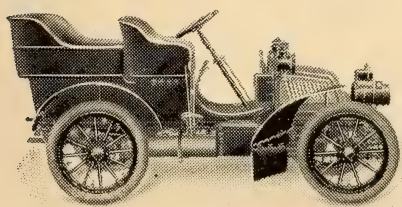
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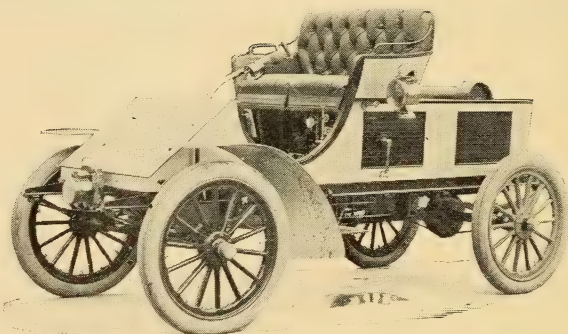
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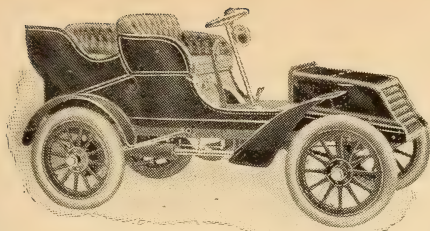


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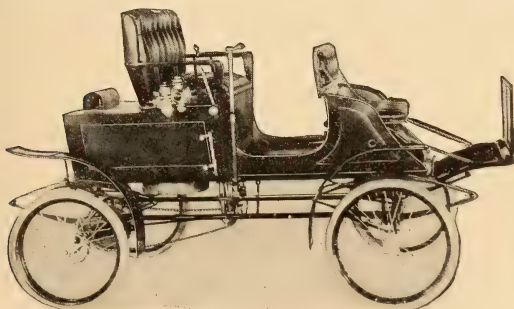
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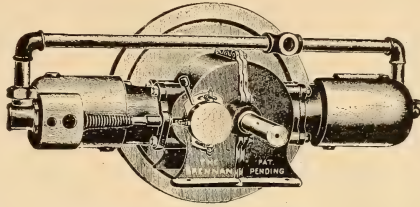
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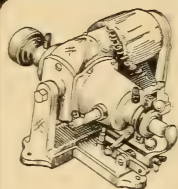
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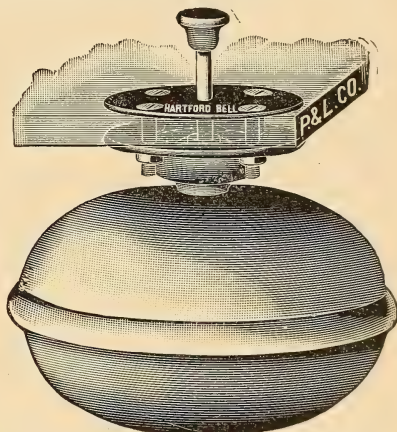
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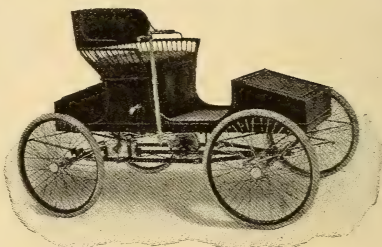
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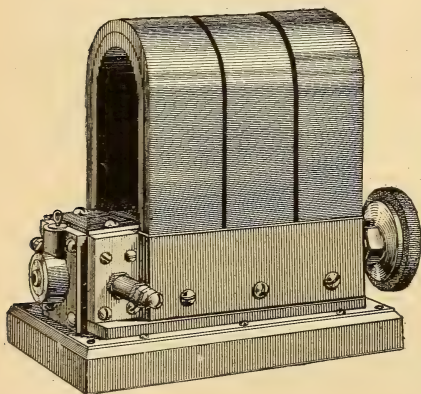


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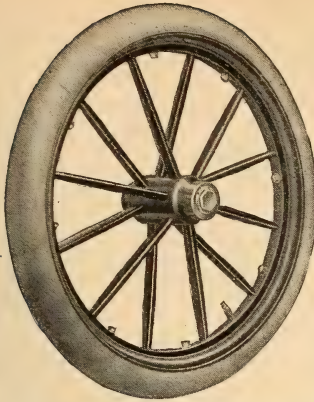
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The only wheel specially designed and constructed for the combined DRIVING and CARRYING of the load; will not dish, crush or buckle. Unquestioned strength, combining endurance and elegance of finish. Let us inform you fully regarding this, the COMING WHEEL.

Write for Booklet

**THE MIDGLEY MFG. CO.**

K FRANKLIN PETERSON,

COLUMBUS, OHIO, U.S.A.

165 Lake St., Chicago, Western Sales Office.

## GEORGES RICHARD CARS IMMEDIATELY

Of all the light power imported cars, my judgment is that there is none superior in efficiency, reliability and construction to the 10 h. p. Georges Richard.

Actual tests against all competitors have demonstrated the superiority of the engine, its control, economy and hill climbing abilities.

I have made an arrangement with the builders whereby a limited number of the Georges Richard cars will be shipped each week.

For wide-awake buyers, who want a superior light power car, here is an opportunity for immediate delivery.

We are always ready to demonstrate to interested inquirers.

**ALEXANDER FISCHER, 239 West 50th Street, New York**

## THE BEARDSLEY & HUBBS MFG. CO.

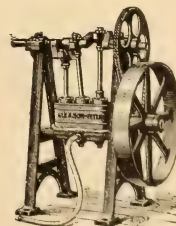
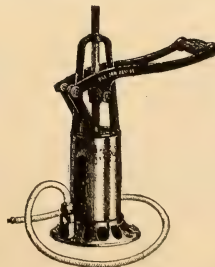
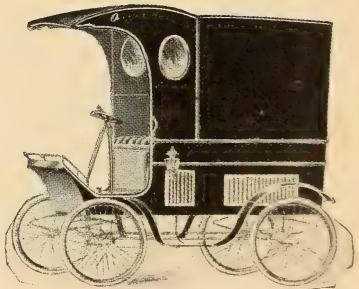
SHELBY, OHIO, Manufacturers of

## THE DARLING GASOLINE AUTOMOBILE

### OUR PRICES

Style No. 1—Stanhope, . . . . .	\$ 950.00
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SEE OUR COMPLETE CATALOGUE. ADDRESS “DEPT. C.”



**GLEASON-PETERS**  
Foot Horn  
Pump for Cars, Trucks  
& Light Trucks  
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No. 225.

**Hand and Power Pumps  
For Bicycles and Automobiles**

**GLEASON-PETERS AIR PUMP CO., Houston and Mercer Sts., NEW YORK**

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## Non-Collapsible Pneumatic Tires

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Embody every desirable feature known  
of in either pneumatic or solid tires



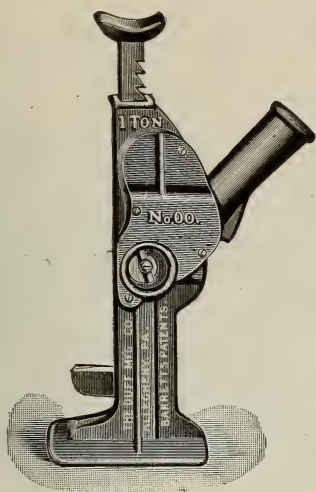
*Our Catalog tells all about them*

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### Munger Automobile Tire Co.

TRENTON : : NEW JERSEY





BARRETT'S PATENTS

The  
**Barrett**  
Automobile  
**Jack**

IS A QUICK-ACTING,  
AUTOMATIC LOWERING JACK

Having a Lifting Capacity of ONE TON—Dead  
Weight — and Adapted to any Automobile.

The "BARRETT" JACK is

**Quick, Durable, Safe  
Powerful, Efficient**

And its LOWERING APPLIANCE is  
a NEW and INDISPENSABLE Feature.

Send for Circular and Prices.

**LIBERAL DISCOUNTS TO DEALERS**

BARRETT JACKS are made ONLY by

The **DUFF MANUFACTURING CO.**

Works and General Offices  
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PITTSBURG, PA.

# STANDARD

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TIRES

TUBE  
TIRES



"Born for Success  
with those qualities which win"

**Hartford Dvnlop  
Tires AND Tires**

Have Stood Pre-eminently Foremost Since the Introduction of Pneumatic Tires

Few devices have been the subject of a greater inventive faculty or more persistent and successful exploitation, and few have reached such a high state of development.

**They Never Vary in Quality or Workmanship Because  
They Cannot Be Made Better or of Better Materials**

If the BEST is none too good for you, it will pay you to adopt these widely and most favorably known tires. Every user is bound to be satisfied with them.

**True Economy Represents Buying the Best Wherever You Can Find It**

We Also Manufacture

**THE TURNER ENDLESS SOLID TIRE**

for very heavy vehicles. Particularly adapted for use where proper strength is required and length of service is guaranteed.

**THE HARTFORD RUBBER  
WORKS COMPANY**

Hartford, Conn.  
U.S.A.



November, 1902

Price, 25c

# THE AUTOMOBILE MAGAZINE

EDITED BY  
ANGUS SINCLAIR



174 BROADWAY, NEW YORK, U. S. A.

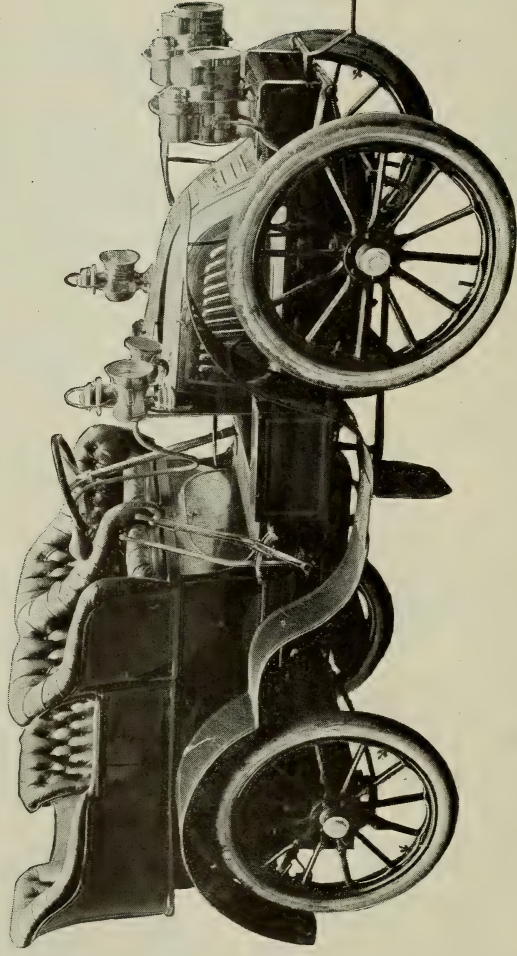
Volume IV

Number 11



# Smith & Mabley

*Seventh Avenue and 38th Street*  
: : : *NEW YORK*



The  
Panhard

The  
Renault

15 H.P. Charron, Girardot & Voigt Car, Made in America

Agents and Importers of Highest Grade Automobiles and Parts

# The Baker Electric

When you see the BAKER ELECTRIC, you see the best made, most efficient and finest finished Electric Automobile in the country. We manufacture Stanhopes with Victoria or open top for ladies' driving or physicians' use, and two styles of Runabouts that have no equal. Send for Catalog.

**The BAKER MOTOR VEHICLE COMPANY**  
CLEVELAND, OHIO

## Studebaker Automobiles

A new electric vehicle showing radical departures in many essential features. The battery consists of 24 cells, carried in the rear of the body compartment. The motor is rigidly suspended from the frame of the gear, just in front of the battery. The battery will give a run of 40 miles on one charge, and can be recharged from any 110 volts direct current lighting circuit. In the severe test made during the last year, no breaks have occurred in running gear. It is a vehicle made for everyday use on country roads or city streets.

*Send for illustrated booklet*

## Studebaker Bros. Manufacturing Co.

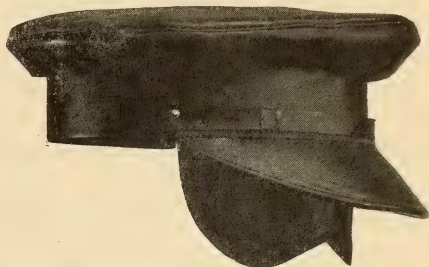
New York City, Broadway and Prince Street  
Chicago, Ill., 378-388 Wabash Avenue  
Kansas City, Mo., 810-814 Walnut Street  
San Francisco, Cal., Corner Market and Tenth Streets  
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Local Agencies Everywhere

Factory and Executive Office, SOUTH BEND, IND.

## Something New

In an Automobile Cap, furnished with eye-shield which serves as goggles and protects the eyes. This can be folded back into cap out of sight and out of the way when not in use. Always with you—never in the way.



**\$2.50, Post-paid anywhere in U.S.**

This cap is made of black calfskin, silk sewed, satin lined, with French visor and high stiff front. Eye-shield is made of transparent tinted green celluloid very pleasant to the eyes, or white celluloid, if preferred.

Same shape as above in dull black Mexican Kid, with eye shield .... **\$2.00**

Same shape in Black French Kid, with eye-shield ..... **\$1.50**

Any size furnished. State size in ordering. Mailed prepaid on receipt of price.

**The POST & LESTER CO.**  
HARTFORD, CONN.

## MOTOR VEHICLES

For Business and Pleasure

ENGINES, GEARS,  
MUFFLERS, ETC.

DESBERON \$1.50  
PLUGS, - 1.50

## Desberon Motor-Car Co.

51st Street and Twelfth Avenue  
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# JACKSON & SCHMELZEL

SPECIALISTS IN

## Automobile Photography

FLUSHING, N. Y.

### THE CONSTRUCTION OF A GASOLINE MOTOR VEHICLE. ❀ ❀ ❀

By C. C. BRAMWELL.

Best book we know of  
on the subject. Plain  
and practical. Gives  
directions for building  
the whole vehicle from  
motor to running gear.  
You want one. \$2.00.

AUTOMOBILE MAGAZINE  
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There is scarcely any condition of ill-health that is not benefited by the occasional use of R·I·P·A·N·S Tablets. For sale by Druggists. The Five-Cent packet is enough for an ordinary occasion. The family bottle, 60 cents, contains a supply for a year.

## "Whitney" Chains

USED BY THE LEADERS

The Whitney Mfg. Co., Hartford, Conn.

## Who Shall Teach Advertising



Ask any number of newspaper publishers or business men who is the best known and most successful advertising specialist, and seven out of ten of them will say "Charles Austin Bates." For half a dozen years Mr. Bates has received for planning, writing, and illustrating advertising, more money than any other half dozen men in that business.

We have secured Mr. Bates' services as preceptor in our Course in Advertising. We purpose to teach the methods that have been proven most successful. We think that every young man, or woman, who is going to spend time and money to learn this very desirable and profitable profession, should receive instruction from a man who, by his own success has established his right to instruct others. The cost of our course is moderate, and under certain conditions we guarantee that our pupils will earn enough money to pay the tuition before the term is completed.

This rather startling innovation is fully set forth in our prospectus, which will be sent on receipt of three 2-cent stamps.

American College of Applied Arts  
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## THE HOWARD SYSTEM

Indispensable for Starting Fire  
ON STEAM AUTOMOBILES

No preliminary heating; starts a gasoline burner instantaneously with a match, like a gas burner. Safe, quick and clean. A postal card will tell you all about it.

J. F. HATHAWAY,  
31 Chester Street, W. Somerville, Mass.



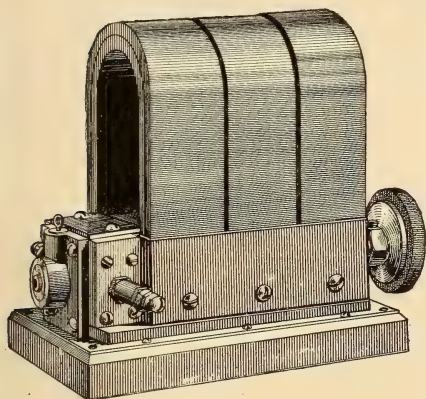
Automobile  
Trimmings  
and Woodwork  
— Prices Low —

The Hill Mfg. Co.  
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## THE NEW HENRICKS IGNITER

A SURE CURE FOR SPARKING TROUBLES. USED BY LEADING AUTO AND MARINE ENGINE BUILDERS. SUCCESSFULLY WORKS JUMP SPARK COIL.



Booklet telling all about it FREE.

**HENRICKS NOVELTY CO.,**  
617-619 So. Illinois St., Indianapolis, Ind.

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In many ways Atlantic City is the most novel place in the world. Even though it is a shore resort its season is twelve months long and at all seasons there is something doing. The great hotels, and there are many of them, are open all the year and the service is fine at all times.

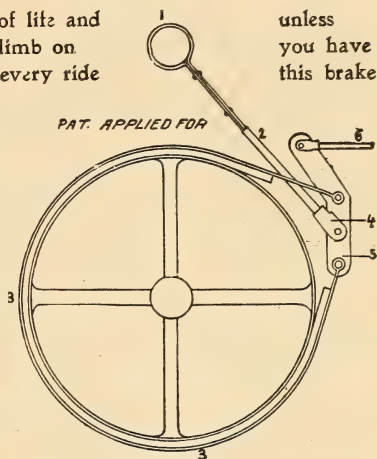
Atlantic City is a city in every sense of the word, and every convenience is afforded, including golf, driving, theatres and similar diversions.

It is a particularly healthful place and the autumn months at Atlantic City are always charming. The famous promenade, the board walk, is ever interesting and no better season can be selected for visiting this famous watering place. The New Jersey Central operates 3 hour trains to Atlantic City from New York at 9.40 a.m. and 3.40 p.m. These trains are models in every respect, and the arrival at Atlantic City is in time for luncheon and dinner. The route is by far the shortest from New York and the General Passenger Agent of the New Jersey Central, New York, has prepared an illustrated booklet on Atlantic City which upon application will be sent to any address.

## You are in DANGER

of life and  
limb on  
every ride

unless  
you have  
this brake!



THIS BRAKE holds in either direction—does not bind and **WILL HOLD YOU ANYWHERE.** Better send a postal and find out more about it.

**N. J. Automobile Co.,**  
8 Central Ave., Newark, N. J.  
Agents Wanted.

## PHINEAS JONES & CO.

MAKE

## Artillery Wheels For Automobiles

One Quality—THE BEST

ADDRESS

301 to 313 MARKET ST.  
NEWARK, N. J.

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# WIRE WHEELS. STEEL RIMS.

Any Section.  
Any Diameter.  
For Vehicles  
from 300 to  
2500 pounds.

Any Section.  
Any Diameter.  
For Wood or  
Wire Wheels.

Steering Knuckles  
To Fit.

WE ARE THE OLDEST AND  
LARGEST COMPANY IN  
THIS LINE.

We want your business. : : : :  
We make one hundred to your one.  
For this reason we can save you  
money and give you better goods.

Send us your Specifications.

Weston-Mott Co., Utica, N. Y.

## Tropenas Department

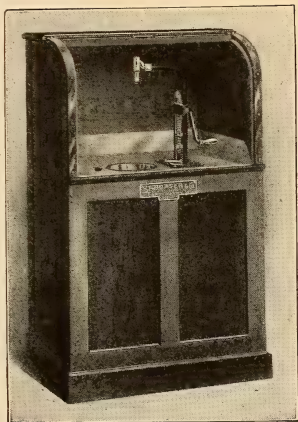
### Steel Castings, 25 pounds and under.

Estimates given on not less than 100 from each pattern.

### THE AMERICAN BRAKE SHOE AND FOUNDRY CO.

170 Broadway

NEW YORK



Roll Top Cabinet

**BOWSER CABINETS**

Keep oils free from dust and dirt and prevent all loss from waste and leakage.

**A Dozen Different Styles**  
Catalogue "G. G." Explains Fully.

YOUR  
**Automobile Stable**

IS  
**NOT FULLY EQUIPPED**

Until You Have Installed

**THE BOWSER** ADJUSTABLE  
MEASURE **OIL CABINET**

for the storing and handling of your  
**COSTLY LUBRICATING OILS**

No waste of oil or time.  
No use of measures or funnels.  
No dirty, oil-soaked floors.  
No use for cotton 'waste' and so  
No danger of fire.

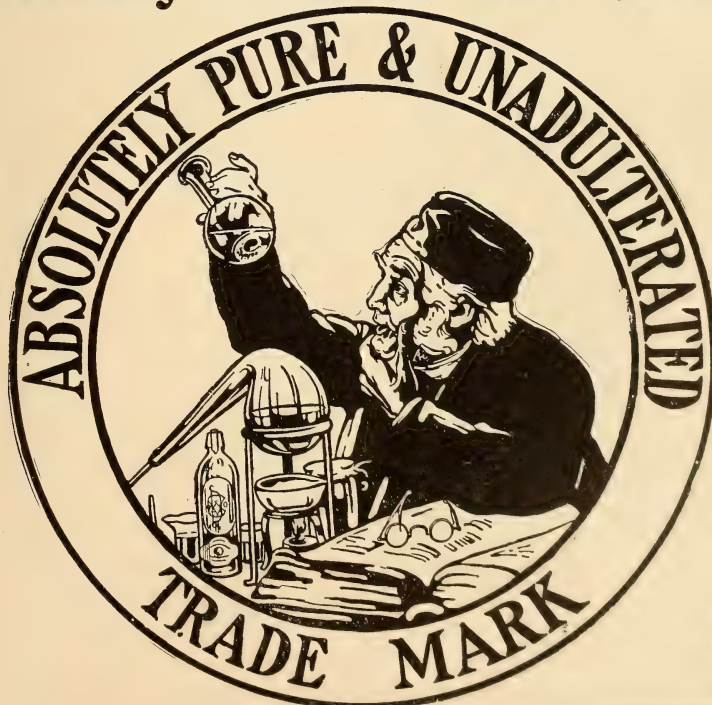
**"OILER"  
FILLED  
AT ONE  
STROKE**

HENCE IT IS  
**ECONOMICAL, CONVENIENT, CLEAN,  
SATISFACTORY**

Pumps accurate Quarts, Pints and Half Pints or  
Pints, Half Pints and Quarter Pints.

**S. F. BOWSER & CO.,** FORT WAYNE  
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Only whiskey  
recognized by  
the govern-  
ment as a med-  
icine. An ideal  
and healthful  
tonic and stim-  
ulant. . . . .

When touring  
take a bottle  
with you. It  
lubricates the  
physical and  
mental man.

WRITE FOR  
FREE MEDICAL  
BOOKLET. . . . .

**Duffy Malt  
Whiskey  
Company**  
ROCHESTER, N. Y.



Telephone Call, 289 W'msburgh

**EDWARD K. BLAISDELL**  
Main Office and Depot: 111 and 113 Kent Avenue

Brooklyn, N. Y., Aug. 5th, 1902

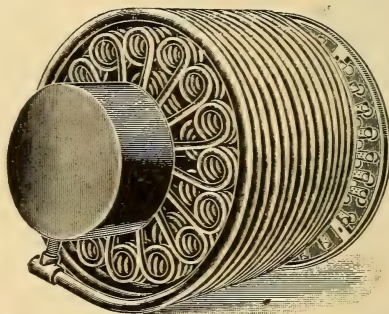
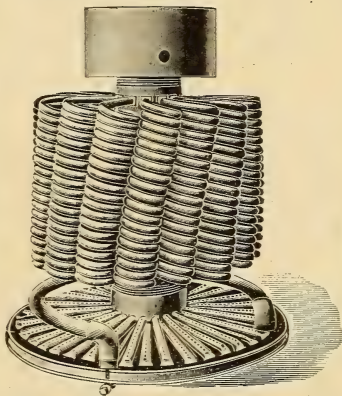
THE SALAMANDRINE BOILER CO., 220 Broadway, N. Y.

Gentlemen:—I wish to say that the ten horse power boiler that I have in my machine is the *best thing* that I have run up against as yet and have got to meet the machine that can *pass me* on the road for *one mile or thirty*.

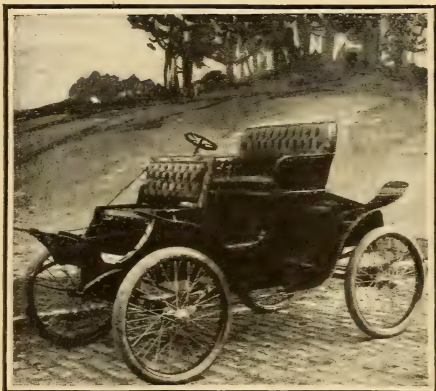
If the boiler had been of the common variety it *would have been burned out a hundred times or more*, but shows no weakness as yet, and don't think that it will. I have no trouble to *hold the steam* at 250 lbs., at any time, *up-hill or down*, and will be pleased to have any of your representatives call and see what the machine will do.

Very truly yours

(Signed) EDWARD K. BLAISDELL



THIS IS THE  
**“RIG THAT RUNS”**



Everybody Knows It Now

**They watched B 34 in the  
Endurance Run**

**NEVER MISSED A CONTROL  
NO MECHANICS  
NO HELPERS  
NOTHING SPECIAL**

*Went in right cut of stock and went through on its merits, with a load of three passengers instead of two as intended.*

*One of the best carriages at any price and undoubtedly the best value on the market.*

**Catalogs Free**

**St. Louis Motor Carriage Co.**

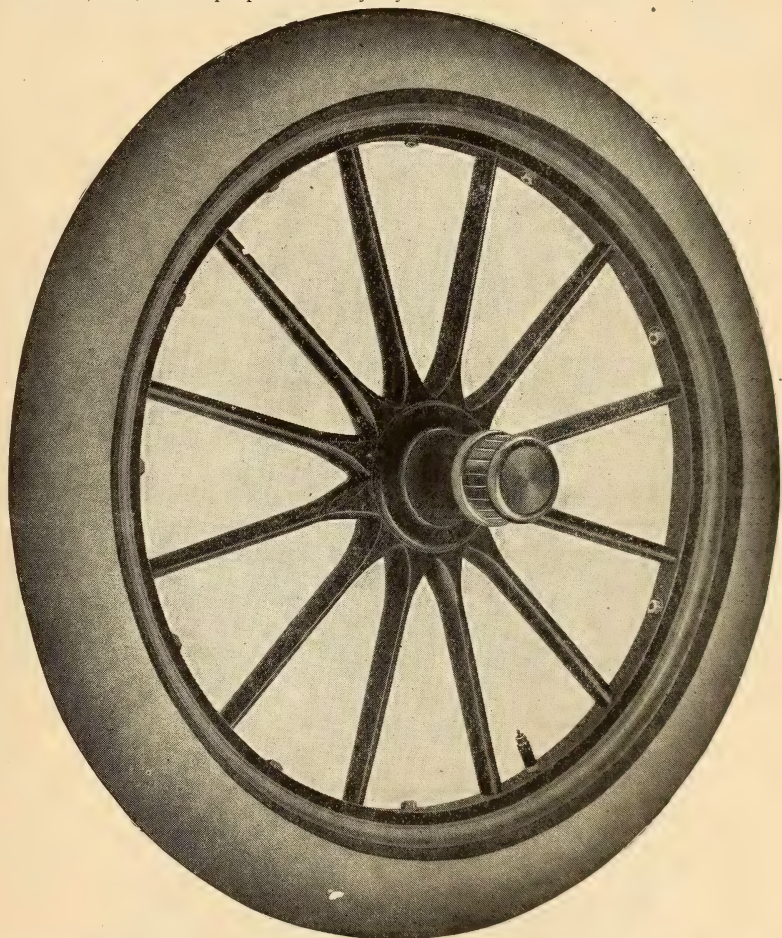
1120 Vandeventer Avenue, St. Louis, Mo.

## The Prophet Probably Meant the Midgley

"As for the wheels, it was cried unto them,  
in my hearing, 'Oh, Wheel!'"—Ezekiel, 10, 13.

### THE MIDGLEY—IT IS THE WHEEL!

and the people will cry for it, and manufacturers of automobiles, if alive to their best interests, will give the people what they cry for.



## The Midgley Tubular Steel Wheel

looks better, lasts longer, and is safer than any other wheel made. Our artillery pattern is guaranteed for one year, and to last longer than any automobile they carry. We will replace free of charge any Midgley wheel if broken in a fair test, where strength counts. The Midgley Wheel can accommodate any bearing, and weighs no more than any other wheel.

Send for testimonials and other literature about the Midgley Wheel.

**THE MIDGLEY MFG. CO.,**

Columbus, Ohio

Western Selling Agent: K. FRANKLIN PETERSON, 165 Lake St., Chicago.

Eastern Selling Agent: THOMAS J. WETZEL, 50 Warren St., New York



# *A Foster Clincher!*

Again the FOSTER Automobile  
Proves its Superiority 3 3 3 3

Their wagon, known as "B 70," won a Blue Ribbon in the New York-Buffalo Endurance Race, 1901.

This same wagon had continuous, hard usage from September, 1901, to October, 1902, and then was entered as

**"B 70" in the New York-Boston Reliability Contest,**

and with the original Boiler, Engine and all vital parts, finished with 100 per cent. Reliability credit.

NO OTHER MAKE OF MACHINE MADE A BETTER RECORD.  
THE FOSTER IS A STEAM VEHICLE.

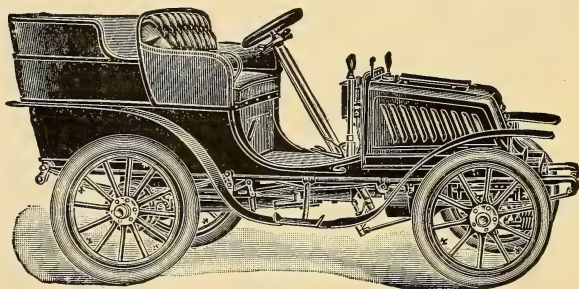
Of the Automobiles that started in the big run, fifty-five were gasoline and nineteen steam. Of those that finished with clean scores, ten were steam and ten were gasoline—conclusively proving the superiority of steam as a motive power for touring purposes.

Catalogue of FOSTER Automobiles sent on request.

**FOSTER AUTOMOBILE MFG. CO.**  
**ROCHESTER, N. Y.**

# Darracq Cars

HOLD MORE RECORDS THAN ANY  
OTHER MAKE IN THE WORLD



In America Weekly Importations Insure  
Latest Styles and Immediate Delivery

**AMERICAN DARRACQ AUTOMOBILE CO.**

F. A. LA ROCHE, Sales Manager

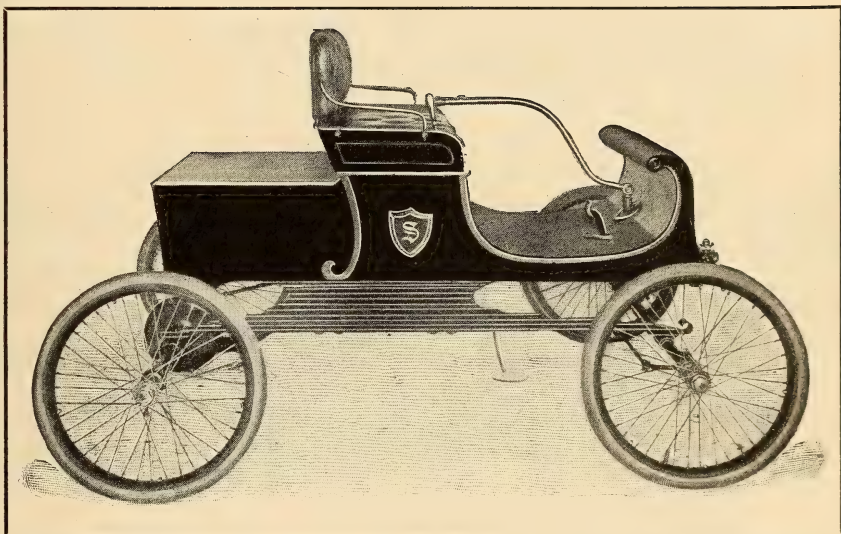
652 Hudson Street, Near 14th St. Station,  
9th Avenue Elevated, New York



# The Average Man

**\$650**

wants a vehicle that will carry him anywhere he wants to go and not require a skilled mechanic to keep it in order.



## The **SPAULDING** Gasoline Runabout

meets his every requirement. Starts from the seat. Runs 200 miles on one charge of gasoline and is **SIMPLE — DURABLE — ECONOMICAL.**

### Spaulding Automobile & Motor Co.

63 Chandler St., BUFFALO, N. Y.

### NEW JERSEY AUTOMOBILE CO., Newark, N. J.

Agents for New Jersey and New York City.

**Reliable Agents Wanted.**

Tried,  
Tested  
and Proven.

ADDRESS ALL CORRESPONDENCE  
TO

17,000  
Miles of Actual  
Road Experience.

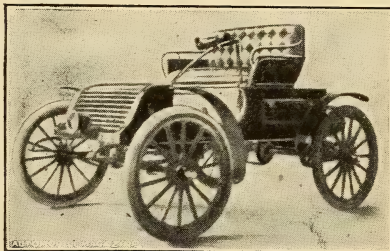
## Friedman Automobile Co.

No. 3 EAST VAN BUREN STREET,  
CHICAGO, ILL.

Price, \$750.00.

Hydro-Carbon.

Capacity, 125  
Miles.



6 H. P., Actual,  
Starts from  
Seat. No Gear.

Simplest  
Machine Ever  
Constructed.

MANUFACTURED AT BELVIDERE, ILLS., BY THE

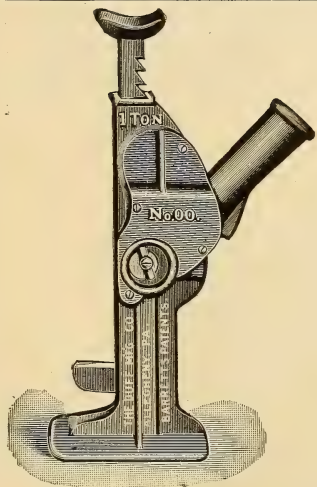
## NATIONAL SEWING MACHINE CO.

CAPACITY, 10 MACHINES PER DAY.

IMMEDIATE DELIVERY.

We have done our  
own experi-  
menting

AGENTS  
WANTED



:: BARRETT'S PATENTS

## The Barrett Automobile Jack

is a QUICK-ACTING  
AUTOMATIC LOWERING JACK

Having a Lifting Capacity of ONE TON—  
Dead Weight—and Adapted to any  
Automobile.

The "BARRETT" JACK is  
QUICK, DURABLE, SAFE,  
POWERFUL, EFFICIENT

And its LOWERING APPLIANCE is a NEW  
and INDISPENSABLE Feature

SEND FOR CIRCULAR AND PRICES :: LIBERAL DISCOUNTS TO DEALERS  
BARRETT JACKS are made ONLY by The DUFF MANUFACTURING CO.

Works and General Offices  
Allegheny, Pa.

Pittsburg, Pa.

# G & J TIRES AND GOOD RESULTS

== GO HAND IN HAND ==

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THE USUAL ENVIABLE RECORD WAS MADE BY G & J TIRES IN THE NEW YORK-BOSTON RELIABILITY RUN.

THE FEW PUNCTURES THAT OCCURRED WERE REPAIRED EN ROUTE, THUS DEMONSTRATING THE PRACTICABILITY OF EMERGENCY REPAIRS ON G & J TIRES. THESE PUNCTURES WERE THE ONLY ACCIDENTS TO G & J TIRES.

SEVEN CARS ENTERED THE RUN EQUIPPED WITH G & J TIRES. TWO DISCONTINUED OWING TO SLIGHT MISHAPS TO MACHINERY. THE REMAINING FIVE FINISHED CREDITABLY.

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**G & J TIRES**  
**ARE STRONG, FAST, RELIABLE**

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G & J TIRE COMPANY - - INDIANAPOLIS





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given to the consideration of **Automobile Insurance** will convince every prudent owner of an automobile that it is a wise precaution to carry insurance policies protecting him against loss:

1. From fire; and
2. From damages and damage suits for personal injuries, for negligent operation, defective machinery or other causes.

**Fire Insurance** policies of the ordinary style are issued under the most liberal forms to cover automobiles while in storage and those of the "floater" style to cover while in storage or use within the United States.

**Liability** policies not only protect from loss, but save the annoyance incidental to the defence of damage suits as well. The cost of such policies is relatively small.

Full explanation of the several forms of **Automobile Insurance**, as well as estimates for each style, will be given upon request by mail, telephone or personal interview. Prompt attention given to all communications.

### INSURANCE DEPARTMENT

**American Estates Managing Company**

Telephone 4545 Cortlandt

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## ASK AND FIND OUT

**N**O MATTER what you want to know about an automobile, its power, maker, price, stability, suitability, or anything else, can be quickly ascertained at no additional expense than for the postage employed in stating your difficulties to the

### INFORMATION BUREAU

OF

## The Automobile Magazine

1 MAIDEN LANE, NEW YORK CITY

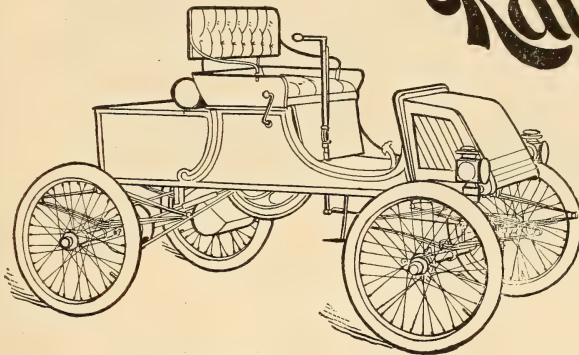
We do not claim to know it all, but what we don't know we can find out for you—perhaps better than you can for yourself.

If you are having more than your share of auto troubles we can probably help you. Don't be bashful—send in your queries.

# 4 RAMBLERS

The New York-Boston Endurance  
Contest verified our claims that the

# Rambler

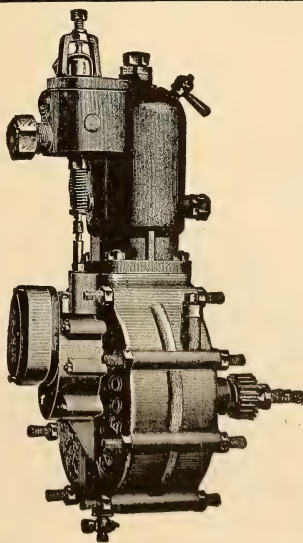


is the equal of the \$1,000 kind, but at one-third the cost. Read the reports and note the steadiness of the RAMBLER on hills and through sand. Catalogue free.

THOMAS B. JEFFERY & CO., KENOSHA, WISCONSIN.

# 4 BLUE RIBBONS

# KELECOM MOTORS and THE AUTOLYTE



ARE THE BEST ROAD HELPERS  
**Good Motors and Lamps**

ARE AMONG THE VERY ESSENTIAL  
REQUISITES IN AUTOMOBILING

**WE HAVE BOTH OF THEM**

**The Famous Kelecom Motor**,  $1\frac{3}{4}$  to 11 H. P. Used very largely abroad and is the most famous motor importation for Automobiles and Bicycles. A 5 H. P. Kelecom Motor in an 822 pound carriage with two passengers finished ahead without a single stop in the 100 mile Long Island Endurance Test, using only three and one half gallons of gasoline.

**The Autolyte Acetylene Automobile Headlight**. Four styles, all beauties. Our French model motor, very Frenchy, with American improvements, is the real Parisian article. I have a specially made lamp for Oldsmobiles. Headlights for racing and heavy machines with side lights in stock. Send for Illustrated Catalogue. Agents wanted.

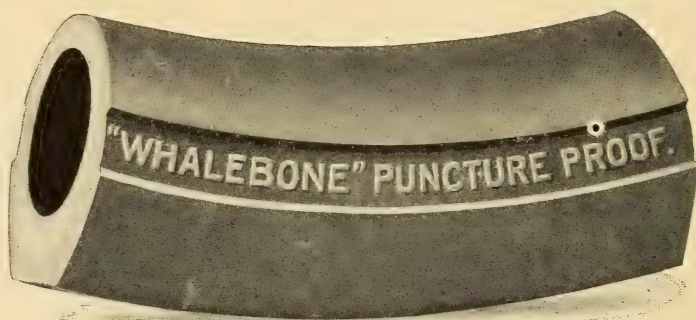
**A. H. FUNKE** 325 Broadway  
New York



Sole Importer of Kelecom Motors  
and Autolyte Lamp Maker







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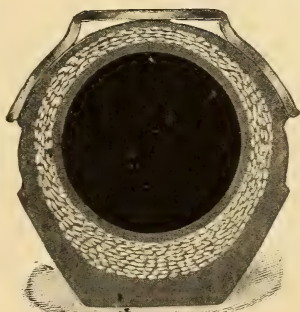
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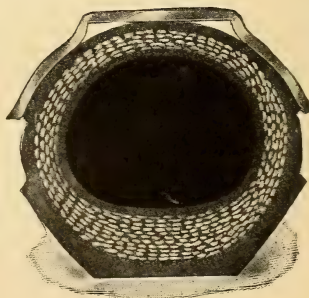
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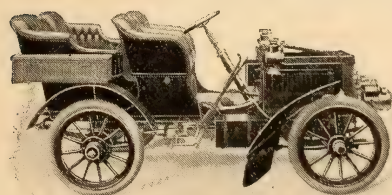
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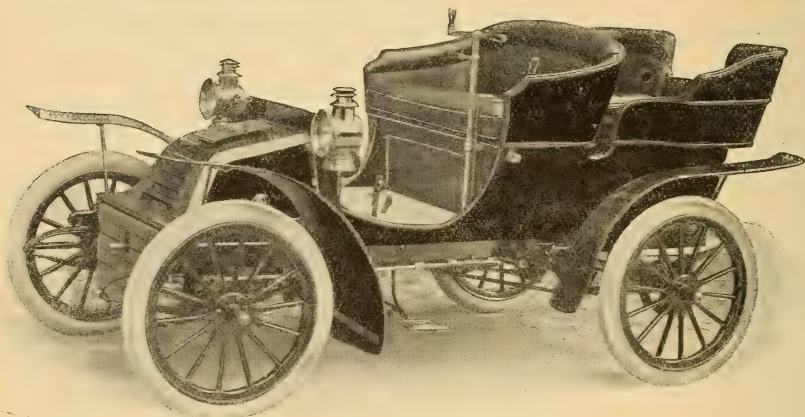
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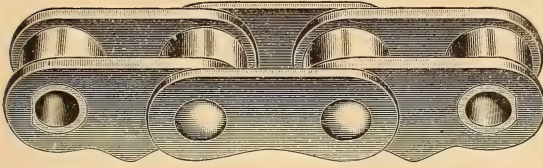
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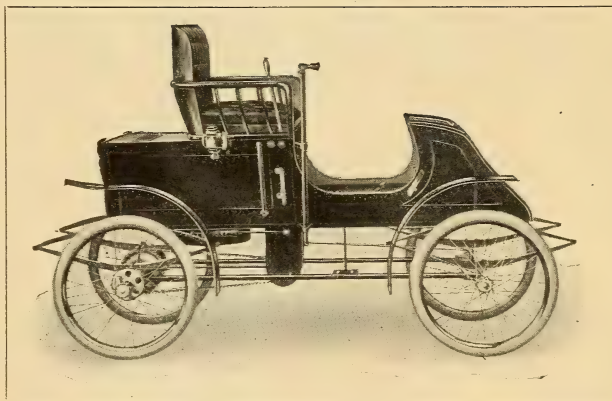
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BUFFALO—G. H. Poppenberg, 636 Main St. Telephone, Tupper 472. S. R. C.  
BUFFALO—Buffalo Auto. Exchange, 320 Franklin St. Telephone, Lupper 870. S. R. C.  
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## THEY ALL READ ALIKE ABOUT Brennan Gasoline Motors

No such praise has ever been given motor makers as Brennan Motors have received. All good things are praised—and rightly so. READ THIS CAREFULLY:

"Gree'ey, Colo., Oct. 11, 1902.

"THE BRENNAN MOTOR CO., Syracuse, N. Y.

"Gentlemen:—I have the first automobile finished. We have made a good test run of about one hundred miles. The motor so far as I can see works perfectly. No noticeable vibration and as near noiseless as it seems it would be possible to make a motor.

"So far it is indeed very satisfactory. I thank you very much for your last letter of full instructions telling me how to take care of and operate motor; it has been a great deal of help to me.

"The automobile is a great success which can be largely attributed to the motor. It has created quite an excitement among the Greeley people.

"Please quote price on a motor for a ten passenger rig.  
(Name furnished if desired.)

Yours truly, \_\_\_\_\_"



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(But the Winton is Always Doing That)

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**A** WINTON TOURING CAR, on Oct. 15th, ran the 250-mile course between Boston and New York in the remarkable record time of less than 12 hours. The car won a perfect score and had the advantage of complete check by the control officials of the Automobile Club of America's New York-Boston-New York reliability run.

**The Performance Clipped Six Hours from the Previous Best Record.**

This car, owned by Mr. H. D. Corey, the well known Boston banker, had just been released from the customs after completing a several thousand miles' successful tour upon the European continent. It was a 15 H. P. car with standard 1902 equipment throughout.

**The new Winton Touring Car will have a 20 H. [P. motor and many other improvements which] will maintain its position upon the top-most round of the automobile ladder.**

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## The Winton Motor Carriage Co.

Factory and General Offices  
**CLEVELAND, U. S. A.**

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BOSTON

CHICAGO

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# Use Albany Grease

for your Automobile.

## WHY?

It is the only safe lubricant under all conditions. It is always uniform in quality.

It does the work; every particle is a lubricant.

It avoids hot bearings and will not gum.

It will bring you back in as good condition as when you start.

It is used by most manufacturers of automobiles to start their new machines.

Use No. 2 grade for Winter and No. 3 for Summer.

The quality of all grades is the same, the only difference is in consistency.

It can be purchased the world over from engine and mill supply hardware oil houses.

Only made by

Adam Cook's Sons, 313 West St., N.Y. City, U. S. A.

This Trade Mark on Every Package.



Look out for Yellow Label.

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UTICA—Utica Auto. Co., W. H. Birdsall, Mgr. Telephone, 1U. S. R. C.

WHITE PLAINS—E. P. Horton, 105 Railroad Ave. Telephone, 20 B. R.

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LIMA—W. E. Rudy, 125 E. Market St. Telephone, 6481. S. R.

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COLUMBUS—Oscar S. Lear, 201 S. High St. Telephone, 739. S. R. C.

DAYTON—Kiser & Co., 29 E. 2d St. Telephone, 1087. S. R. C.

SPRINGFIELD—D. Vanderpool, 12 E. High street. Telephone, 10762. S. R. C.

YOUNGSTOWN—A. E. Bown, 134 E. Federal St. Telephone, 1034. S. R.

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EASTON—George G. Snyder, 200 S. 3d St. S. R. C.

HARRISBURG—Kline Cycle Mfg. Co., 12 N. Mkt. Square. Telephone, 642 X. S. R. C.

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PHILADELPHIA—Hart Cycle & Auto. Co., 828 Arch St.

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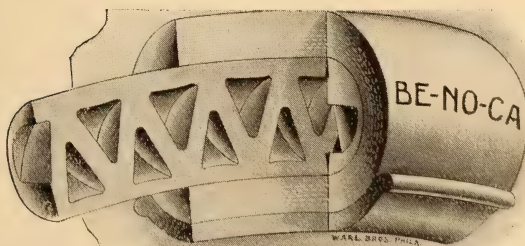
READING—Duryea Power Co., River St. Telephone, 1422. S. R.

READING—E. S. Youse, 46 N. 5th St. Telephone, 147 C. S. R.

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IT HAS ALL THE MERITS of the Pneumatic with none of its faults. You can defy punctures and save the price of many ordinary tires by using the **BE=NO=CA** tire. Fatal accidents have been caused through unsafe tires. No accident can happen with our tire.

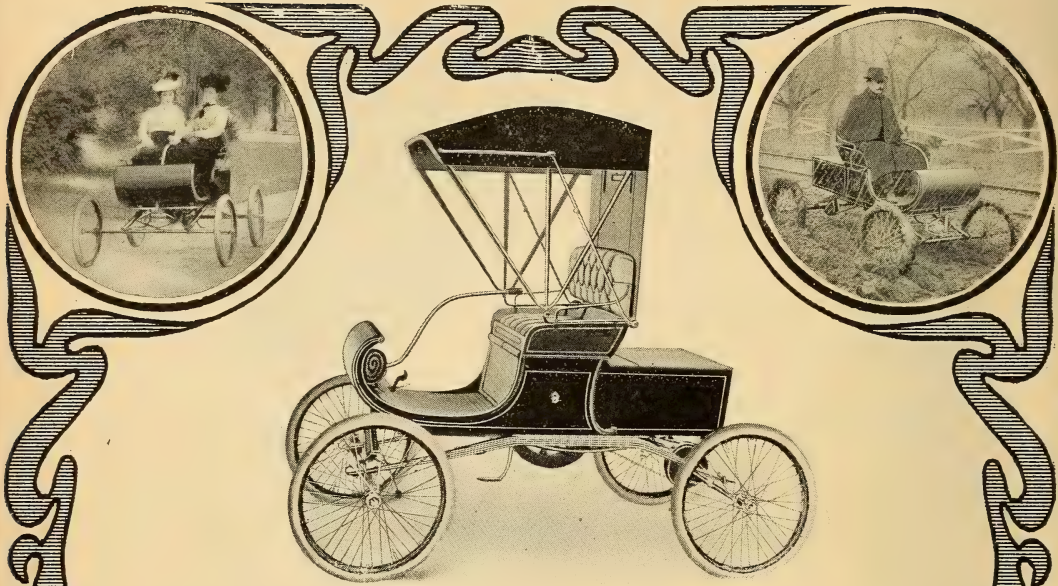
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*"Nothing to Watch but the Road"*

THE BEST THING ON WHEELS  
*"Built to RUN, AND DOES IT"*

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The pioneer Automobile again shows its real merit. Out of thirteen competitors it was the only one to finish in the 1,000 lbs. class—thus winning the highest award

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The cheapest RELIABLE Automobile made. As cheap as imitations and BETTER

**PRICE \$650.00, F. O. B. DETROIT**

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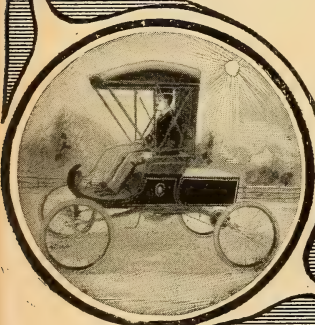
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SUITABLE FOR STEAM, GAS OR ELECTRICITY

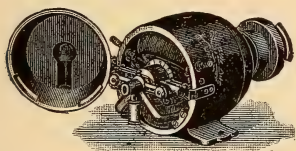
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Why pay Electric Light Companies for charging the batteries of your vehicle or for lighting your house, when you can generate your own electricity?

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We will put you in a complete electric plant, and once installed it will virtually run itself.

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**Did You See B-51?**

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## NO TROUBLE CAN BE EXPECTED IF YOU RUN THE Stearns Steam Carriage

EVERY RELIABILITY TEST PROVES THAT

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Characterize the **Stearns Carriages**, the product of highly skilled designers and workmen. Built more substantially than the lighter types and without the ponderous appearance of the road machines of the day. 9 Models. Prompt Delivery.

ILLUSTRATED CATALOG ON APPLICATION.

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*More Frenchy than the French. (With a few Solar Improvements.)*

### 1903 MODEL SOLAR MOTOR LAMPS

*"The Evening Dress for Automobiles"*

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The most powerful light projector ever produced anywhere. Actual comparisons will prove it the peer of any foreign or domestic gas headlight.

Large size, full brass,	each, \$40.00	Small size, full brass,	each, \$30.00
Nickel or brass and enamel,	" 35.00	Nickel or brass and enamel,	" 25.00

#### SOLAR AUTOIL LAMPS

Perfect burning, powerful light givers. Proof against extinguishment by any condition of speed, road, wind or weather. Their striking and artistic design will add to the finish of autos to which they are attached. Cold blast central draught principle.

Price per pair, in full brass,	\$25.00
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Send for 1903 circular of 25 other styles of oil, gas and electric lamps, auto horns, tails, lamps, brackets and radiator discs or fins.

**BADGER BRASS MFG. CO.,**

**KENOSHA, WIS., U. S. A.**

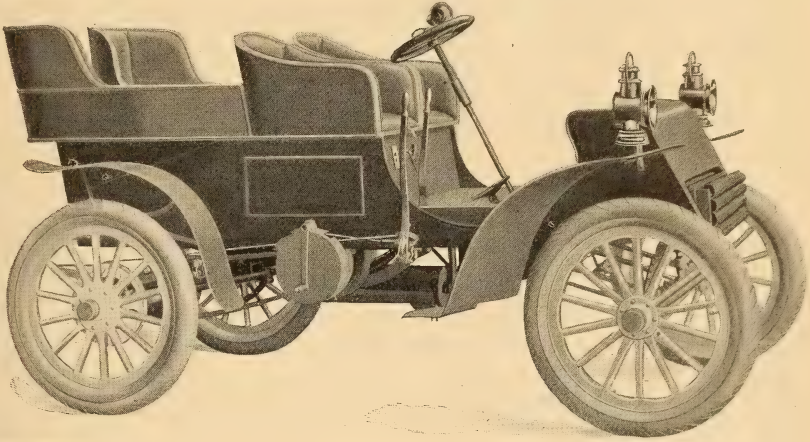
Makers of the De Luxe of fully guaranteed Motor Accessories

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The bluest ribbon and the best certificate in all these  
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### Packard

400 Miles New York-Rochester  
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### 2—GOLD MEDALS—2

In the New York-Boston Test Qualifying  
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Won the Gasoline Carriage Crown was  
the universal public verdict.

Don't order your 1903 Automobile before  
investigating Packard merit.

"ASK THE MAN WHO OWNS ONE"

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# STEAM vs. GASOLINE

A DECIDED VICTORY FOR STEAM  
AND THE

## Grout Steam Cars

WERE  
GOLD MEDAL WINNERS

The Steam Automobiles, entry for entry, scored over the Gasoline Carriages.

### The Red, White and Blue Grout Steam Cars

Were in the lead throughout the Reliability run from New York to Boston and return. Note the percentage of steam vehicles in the non-stop winners. **19 Started, 18 Finished.** THE GROUTS ARE BLUE RIBBON WINNERS. Two vehicles went the entire distance without a stop of any kind. One with only a five minutes' delay, to adjust water glass.

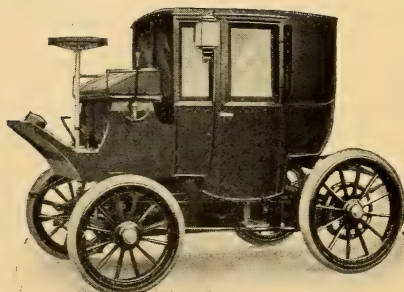
The 1903 GROUT TONNEAUS and TWO-SEATED TOURING CARS ready. We are ready to appoint agents in unoccupied territory for 1903.

GROUT BROS. - Orange, Mass.

## *Columbia* Automobiles

ELECTRIC ——— GASOLINE

Seventh  
Year  
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Vehicles  
For  
All  
Requirements

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FOR BICYCLES.

SINGLE TUBE

FOR AUTOMOBILES.

DUNLOP DETACHABLE.

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Have Stood Pre-eminently Foremost Since the Introduction of  
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Few devices have been the subject of a greater inventive faculty or  
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**They Never Vary in Quality or Workmanship Because  
They Cannot Be Made Better or of Better Materials**

If the BEST is none too good for you, it will pay you to adopt  
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True Economy Represents Buying the Best Wherever You Can Find It

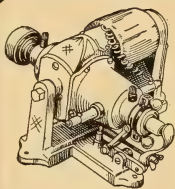
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THESE ARE THE  
ONLY TOOLS YOU WILL NEED

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Engines, Launches,  
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Do away entirely with  
ALL starting and run-  
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Fully guaranteed and costs less than 50 cents  
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GET OUR CATALOGUE OF SUPPLIES.

Caps, \$1.50 and 3.00.

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Coils from \$5.50 to 36.00.

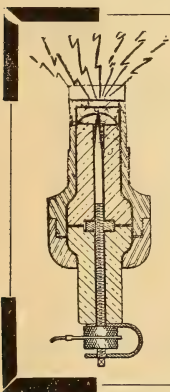
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EVERYTHING TO BUILD STEAM  
OR GASOLINE VEHICLES.

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Wonderful Results with  
**MOSLER**  
Spark Fire Plug

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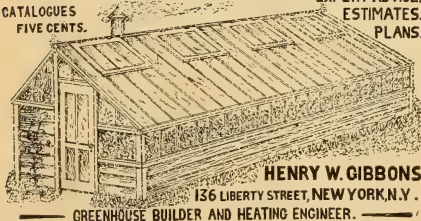
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Sparkling Points. Special  
Nickel Rod with 'screw Ad-  
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bend, none to break.

Reversible Porcelain  
Double Life,  
Complete, \$2 50  
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Any Standard French and  
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AGENTS WANTED.

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We would like to send you  
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You will be surprised to know  
the results that come from the  
use of properly prepared graph-  
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speed and ease in running.  
It will cost you not over two  
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you may be saved many dol-  
lars.

**Joseph Dixon Crucible Co.**  
JERSEY CITY, N. J.



*The*  
**"STEVENS-DURYEA"**  
GASOLINE AUTOMOBILE  
WON THE  
**SCARRITT CUP**



**Our Carriages Proved their Reliability from the Showing  
Made During the 500 Mile Contest**

THE ENGINE IS STARTED FROM THE SEAT  
IT IS NOISELESS AND WITHOUT VIBRATION  
THEY ARE GREAT ON HILL CLIMBING  
THEY ARE SPEEDY AND HOLD THE TRACK  
RECORDS (FOR MACHINES UNDER 1300  
POUNDS) FOR 1 TO 5 MILES MADE IN 7:42

**THEY WILL BE THE POPULAR CARRIAGE FOR 1903**  
Weight 1050 lbs. Price \$1200.00

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We supply the parts to build it.  
 TONNEAU SEATS can be attached if desired.  
 Testimonials from customers "all over."

**THE ABOVE MACHINE FOR SALE**

Get Our New Supplement and Cat. No. 7 also if you haven't same. **Send Stamp.**

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### Specialties

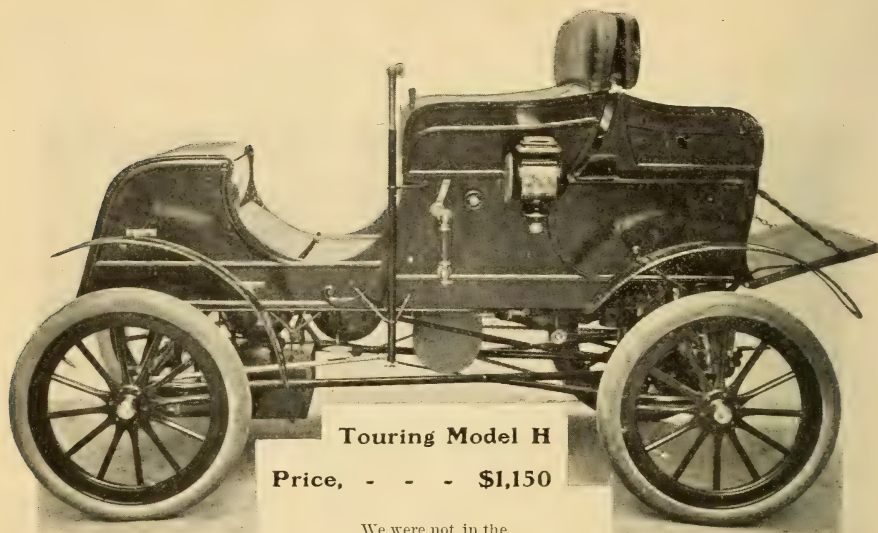
**Tonkin Dry Plate Boilers**  
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